

ESSAY IV.

ON

PUBLIC CREDIT.



E S S A Y I V.
O N T H E
N A T U R E A N D P R I N C I P L E S
O F
P U B L I C C R E D I T.

C O N T A I N I N G

OBSERVATIONS on the System of Redemption laid down in the late Act of Parliament; and on the Means of preserving the Sinking Fund in its proper Line of Service: together with a brief Account of the Rise, Progress, and Present State, of the Public Debts.

T O W H I C H I S A D D E D,

A N A P P E N D I X.

Containing Tables of the Comparative Values of Annuity Stocks bearing different Rates of Interest; with their Explanation, and Use.

L O N D O N:

Printed for B. WHITE and SON, at HORACE'S-HEAD
FLEET-STREET.

M,DCC,LXXXVII.

NATURE AND PRINCIPLES OF PUBLIC CREDIT CONTAINING

Observations on the System of Redemption laid
 down in the late Act of Parliament; and on the
 subject of sinking funds in the
 proper kind of services: together with a short
 Account of the late Projects, and Present State
 of the Public Debt.



Continued by the late Mr. James Mackintosh, &c.
 Second edition, with additions of Interest, with the
 Introduction and C.

Printed by W. WHITE and SON, in Horse-lane
 near St. Dunstons Church.

TO THE RIGHT HONOURABLE
W I L L I A M P I T T,
CHANCELLOR OF THE EXCHEQUER,
Es. Es. Es.

I BEG leave, with the utmost respect, to address the following sheets to You, SIR, because the Subject of which they treat appertains entirely to the business of that great Department over which you preside.

WHEN I consider that the great and important Business of the State must, necessarily, so occupy your time, as to afford you little or no leisure for considerations of small moment; I think it my duty to mention, that the Doctrines and Observations which I here beg leave to lay before you, are considered to be of the utmost National Importance; and that they are not the productions of hasty or transient thought; but are derived entirely from a REGULAR INVESTIGATION of the NATURAL and IMMUTABLE LAWS and PRINCIPLES of the SUBJECT.

INFLUENCED by the same consideration, I beg leave to subjoin, by way of Introduction, a concise Summary of the principal Positions and Arguments contained in the Work ; to the end, that no greater portion of your time may be required in the perusal of the whole, or any part of it, than the Importance of the Positions and Arguments there briefly stated shall appear to merit. And, although it may perhaps, at the first sight, appear singular, that I should prefix this Address to a work of the following Purport; yet, I am strongly persuaded, Sir, that the Soundness of its MATTER will not fail to render it acceptable to a mind like yours.

I have the Honour to be,

With the highest Respect,

S I R,

Your most obedient,

And most humble Servant,

LONDON,

Jan. 25, 1787.

S. G A L E.

INTRODUCTION.

HAVING given a brief account of the Doctrines contained in the preceding Essays, by way of an Introduction to the Third; I shall here confine myself to the subject matter of this Fourth Tract.

This **FOURTH** ESSAY is divided into four sections; to which is added an Appendix.

The **FIRST** SECTION contains some observations respecting the system of redemption prescribed by the Act passed in the last Session of Parliament.

The arguments contained in this first section are briefly these: viz.

‘ That the doctrines laid down by sundry writers, respecting the effects of an *unalienable* sinking fund as computed at compound interest, are inapplicable to the present state of the public debts of Great Britain: because, (among other reasons) in the present state of the public debts of this nation, the quantity of stock or of annuity required to be granted in order to obtain any given sum of money in the market, must be *greater* than the quantity of stock or of annuity that would be redeemed by an equal sum of money applied as a sinking fund: and, consequently,

‘ such unalienable sinking fund would, in fact,
 ‘ *increase* the debt by the very act of making the
 ‘ redemption.

‘ That although the alterations made in the
 ‘ Bill at its third reading in the House of Com-
 ‘ mons, render these losses avoidable *temporarily*
 ‘ in time of war, by empowering the commission-
 ‘ ers of the sinking fund to apply the monies in
 ‘ their charge towards the New Loans; yet, the
 ‘ system of redemption laid down in the Act is still
 ‘ exceedingly defective, and must prove entirely
 ‘ ineffectual; for the following reasons;—to wit;
 ‘ —*First*, because the application of the sinking
 ‘ fund to the purchasing up of the stocks in the
 ‘ market, has a natural tendency to increase the
 ‘ prices to be paid for the redemption, and there-
 ‘ by to encourage *speculative* purchases in the
 ‘ market, which naturally tends to increase them
 ‘ still more: but, when a war becomes appre-
 ‘ hended, the speculative adventurers who had
 ‘ before flocked to market as purchasers, natu-
 ‘ rally crowd to market as sellers, and thereby de-
 ‘ press the value of the stocks *below* what they
 ‘ otherwise would be: in the same manner as the
 ‘ temporary purchasing carries them *above* what
 ‘ they otherwise would be: so that this system of
 ‘ redemption must naturally increase the loss to
 ‘ the public, not only with respect to the redemp-
 ‘ tion of the old stocks, but likewise with respect
 ‘ to the terms of obtaining new loans, when new
 ‘ loans shall become wanted.

‘ *Secondly*.—Because, the sinking fund being ap-
 ‘ plicable to the redemption during *peace only*, it can
 ‘ never prevent the further and further increase of
 ‘ the debts and incumbrances until the said sinking
 ‘ fund shall become so increased as to purchase up as
 ‘ much

' much stock or annuity during peace' (with all the
 ' disadvantages of the increased price thereon), as
 ' shall be necessary to be granted for the additional
 ' monies required to be raised by loan during war :
 ' It is generally admitted that the debt and the in-
 ' terest thereon is already so large as to render it
 ' impracticable, even now, to raise the additional
 ' revenue that would be required for this purpose ;
 ' and it must, evidently, become still more im-
 ' practicable when the debt and the interest thereon
 ' shall become further increased by new wars.'

The SECOND SECTION [Page 32, &c.] treats of
 the necessity of preserving the sinking fund in its
 proper line of service (agreeable to the *original in-*
tention of Parliament, when the business was first
 introduced) as well during *war* as *peace* ; and of
 the means whereby this desirable object may be
 accomplished.

The argument of this section is briefly this—
 ' That, it being admitted to be impracticable to
 ' raise the additional revenue that would be re-
 ' quired for the purpose of redeeming as much
 ' debt during *peace*, as shall be incurred during
 ' *war* ; the only possible method of preventing the
 ' further and further increase of the public debts
 ' and incumbrances *ad infinitum* (which would evi-
 ' dently produce a public bankruptcy in any na-
 ' tion whatever), must be, to render the sinking
 ' fund applicable to the redemption (not during
 ' *peace only*, but) during both *peace* and *war* : And
 ' that the only *possible* method of doing this, is, to
 ' convert the debt (by the subscriptions of the
 ' creditors) into stocks bearing a rate of interest
 ' as high as (or higher than) the ordinary rate of
 ' the market, subject to a *limited tender* for the
 ' periodical

' periodical redemption of the capital ; whereby
 ' to give the new stock a free and secure capacity
 ' for rising in value *above par* for the advantage
 ' of the creditors, without injury to the public
 ' with respect to the price to be paid for the ne-
 ' cessary periodical redemptions ; and whereby
 ' also, the sinking fund shall be enabled to re-
 ' deem a quantity of stock or of annuity equal to
 ' (or greater than) the quantity of stock or of an-
 ' nuity that shall be required to be granted for
 ' obtaining an equal sum of money in the market :
 ' without which, the application of the sinking
 ' fund to the redemption, must, in fact, *increase*
 ' the debt, instead of *checking* it.'

The THIRD SECTION [page 37] treats of the comparative values of annuity stocks bearing different rates of interest, subject to different tenders for their periodical redemption.—This section consists chiefly of algebraic demonstrations, and numerical illustrations, which do not admit of abridgment. I shall, therefore, only observe here, that the great leading principle, or position, is this—' That the *value* of any annuity stock carry-
 ' ing a higher interest than that of the market,
 ' subject to a limited tender for its periodical
 ' redemption, will bear the same proportion to
 ' the *nominal capital*, as the sum of the *tender* and
 ' *market interest* shall bear to the sum of the *tender*
 ' and *interest on the stock*.'

The FOURTH SECTION [page 51, &c.] contains a brief history of the rise and progress of our public debts ; with observations and remarks thereon.

These remarks evince—First—' That had the
 ' nature and principles of the subject been in-
 ' vestigated, the lenders, when they advanced

' their money, would never have accepted of any
 ' other kind of stock, but that which is here re-
 ' commended;—to wit;—" A stock bearing a
 ' higher interest than that of the market, subject
 ' to a limited tender for its periodical redemp-
 ' tion." By demanding this kind of stock, they
 ' would have avoided the losses they sustained by
 ' the reductions of their interest in the two late
 ' reigns, and by the depreciation of the value of
 ' their capitals, which has since taken place in
 ' consequence of those reductions: and, the public
 ' would likewise have been free from that im-
 ' mense load of *artificial* debt which has since been
 ' accumulated.' Secondly—' That the *artificial*
 ' *debts* and *premiums*, which have been so much
 ' complained of, are consequences absolutely in-
 ' separable from the depreciations of the stocks:
 ' because, when a man can lay out his money in
 ' any stock at a *discount*, with a prospect of ob-
 ' taining such or such an advantage from the fu-
 ' ture *rise* of the stock, his own interest will not
 ' suffer him to advance it on any other stock,
 ' without having, in some way or other, an *equal*
 ' (or a *greater*) prospect of advantage: and, con-
 ' sequently, the only thing that can be done, after
 ' the depreciation shall have actually taken place,
 ' is, to grant these advantages to the creditors in
 ' such a way, as shall be attended with the *least*
 ' *disadvantage* to the public. Neither can the
 ' further and further losses to the creditors by
 ' *future* depreciations (nor the further and further
 ' losses to the public by *future* accumulations of
 ' artificial debt in consequence of those deprecia-
 ' tions) be prevented, but by a conversion of the
 ' debt into stocks of the abovementioned kind.
 ' And hence, if such conversion be not offered in
 ' a time

‘ a time of peace, when Government (by having
 ‘ it at its option whether to redeem or not) has it
 ‘ in its power to command reasonable and equita-
 ‘ ble terms ; it will naturally be demanded by the
 ‘ lenders in a time of war, as a part of the condi-
 ‘ tions of the new loans ; and, Government being
 ‘ then as it were in the power of the lenders, the
 ‘ terms demanded will, of course, be more un-
 ‘ favourable to the public.’

The APPENDIX contains Tables for ascertaining the comparative values of Four per Cent. Five per Cent. and Six per Cent. Annuity Stocks, subject to different tenders for their redemption ; the value of a Three per Cent. Stock being given. An explanation of their construction is likewise added ; together with easy rules for their application, which are illustrated by examples : And these illustrations are accompanied with practical observations, which support and confirm the doctrines before laid down.

ESSAY IV.

SECTION I.

Observations on the Act of Parliament, [26 GEORGE III. Chap. 31.] for vesting certain Sums in Commissioners, to be by them applied to the Reduction of the NATIONAL DEBT.

1. **T**HE immense increase of our Public Debt, and the very low prices to which the Public Stocks had fallen towards the latter end of the late war, together with the low prices at which (except for a few weeks at the immediate restoration of peace) they continued more than two years after the peace took place, awakened the minds of men in general to very serious reflections. *. The necessity of establishing some permanent system of finance that should prevent the excessive increase of the public debts and incumbrances in future, was universally admitted. Every body agreed with respect to the object to be accomplished, whatever differences of opinion there might be with respect to the means of accomplishing it.

2. A regu-

* In the Spring of the year 1782, the *three per Cents* were at about 54*l.* and from the middle of the year 1783 to the middle of the year 1785 they were on the average under 58*l.*

2. A regular attention to the redemption of the Public Debt seemed to be the most natural, (and, I should conceive, the only possible) means of accomplishing the desired object : the differences of opinion related, therefore, chiefly, to the *manner* of putting the debt into a regular course of redemption.

3. I have, indeed, lately, heard some very ingenious arguments, importing that a diminution of the debt would be an improper step ;—that the *injuries* which the members of the state must necessarily sustain from the *taxes* wherewith to form a surplus revenue or sinking fund, would be much greater than the *benefits* that would be produced by the application of such sinking fund to the diminution of the debt.

This objection would doubtless be of very great weight, in case the taxes were to be taken entirely from channels, where they would otherwise be employed as capitals, for the support of productive industry ; and, in case the rate of interest for money (which may be considered as the expence of putting capitals into action) was not affected by the accumulation of Public Debt.—But, on examination, we shall not find it reasonable to admit, as an *axiom*, that the monies raised by taxes would actually be employed as capitals for the support of productive industry, in case they were not so collected for the public service : We shall, on the contrary, find, that although a part thereof would undoubtedly be so employed, yet, another part thereof would be *uselessly* expended ; and some part would probably be expended in *vicious* pursuits. We shall also find, on examination, that if a public debt be incurred whenever occasion or conveniency shall require,

quire, and no attention be paid to the diminution thereof, the increase in the *quantity* of the public stocks or annuities will naturally produce a depreciation of their *value*; with which depreciation the rate of interest for money naturally rises, and a much greater burthen of taxes must thereby become necessary for the payment of the *interest only*, than would (on a proper system of practice) be required both for the payment of the interest, and for the necessary redemption of the principal.

For the above reasons, I fully admit the verity of the *primary position* by which the legislature was actuated in the passing of the present Act of Parliament, to wit:—"The necessity of a regular attention to the diminution of the debt": Without it, I should not consider it possible for the public incumbrances to be prevented from increasing to such an excess as must terminate in a public bankruptcy.

4. But, although I thus fully admit the verity of the *primary position* by which the legislature was actuated, I am fully persuaded that the system of practice laid down by the Act, is not, in its nature, capable of producing the desired effects; it must, on the contrary, increase and accelerate those very maladies which it is intended to prevent. To point out the defects in the system of practice prescribed by the Act, with that dutiful respect which ought always to be observed towards the Legislature, on the *one hand*, and with that decent firmness which is always due to well examined truths, on the *other*, is the intention of the present Section.

5. The reader will recollect, that when the subject-matter of the present Act was first brought

under consideration in the House of Commons, the declared intention was, to establish such a permanent provision for the gradual diminution of the debt as should never be interrupted in its operation : and for this purpose it was proposed to vest in Commissioners (by Act of Parliament) a certain part of the Revenue, to be by them sacredly and inviolably applied to the redemption of the debt as well during war as peace.

A Bill was accordingly brought in, directing that *One Million* a year [Two Hundred and Fifty Thousand Pounds quarterly], together with such of the temporary Annuities for Lives or Years as should from time to time fall in or expire, and, together also with the Interests or Dividends on such parts of the Debt as should be from time to time redeemed, should be regularly issued to the Bank, and carried to the account of Commissioners appointed by the Bill, to be by them applied " Either in quarterly payments for the redemption of such Redeemable Annuities as should be at or above par : or, To the purchase of redeemable Public Annuities below par, in regular portions as nearly as may be, on every day (Saturdays and Mondays excepted) on which the same should be transferable." And the Bill further directed, that this system of practice should continue until the Annual Sums to be issued to the Bank on account of the said Commissioners (including the abovementioned *One Million*, together with the temporary Annuities for Lives or Years fallen in, and the Dividends or Interests on the Debts so to be redeemed) should amount to *Four Millions*; after which, the said

annual sum of *Four Millions only* should be so issued and carried to account of the Commissioners; and the Dividends or Interests on the stocks to be thenceforth redeemed, and the temporary Annuities for Lives or Years that should thenceforth fall in, should cease to be so issued, and should remain to be disposed of by Parliament*.

6. We may observe here, that the monies consigned to the Commissioners were intended, by the bill, to be uninterruptedly improved at *Compound Interest*, until the Surplus Revenue or net Sinking Fund should become accumulated to *Four Millions* a year; which, it was considered, would be sufficient to check the excessive increase of the Debt in future; and would be accomplished in about twenty-eight years. Gentlemen were not indeed entirely agreed with respect to the propriety of stopping the accumulation of the Surplus Revenue or Sinking Fund at *Four Millions*, some thinking it insufficient for the purpose of preventing the excessive increase of the Debt: If, however, there were nothing more amiss than this, it might be very easily remedied, by extending the accumulation further hereafter, in case it should actually be found necessary.

7. The establishment of an unalienable Sinking Fund, to be uninterruptedly applied to the Redemption of the Debt as well during war as peace, has been long recommended by sundry writers on the subject: But those writers considered the nature of the subject only in part.
Their

* Such was the substance of the Bill, with the Amendments after the Second Reading, as printed, by order of the House of Commons. Some few alterations were made on its *third* Reading, which will be taken notice of in their turn.

Their doctrines were founded only on superficial considerations of the remote powers of compound interest: Powers which, unless fully examined in all their parts and attendant properties, are, perhaps, considering them in a *practical* point of view, the most illusive of all possible considerations.

We were told (by people who wrote in the newspapers in praise of the above-recited Bill) that “ a Sinking Fund of *One Million* a year, sacredly and inviolably applied, would redeem a Debt of *Two Thousand Six Hundred and Ten Millions* in the space of *One Hundred Years*.” This would indeed be the case if the Debt so to be redeemed should be composed of *irreducible five per cent. Stocks* *. But (besides forgetting that the great bulk of our Public Debt consists of *three per cent. Stocks*, of which, such Sinking Fund would not, in the same time, redeem a *quarter part* of the above sum) these writers seem not to have observed that an annual revenue of *One Hundred and Thirty one Millions and an Half*, would be required to produce the effect they mention: That is to say—In addition to the *One Million* Sinking Fund, *One Hundred and Thirty Millions and an Half* would be required for the annual Interest; without which, the effect they mention could not be produced. And, if a nation shall be only able to raise a revenue of *Eighteen* or *Twenty* (or, suppose we say *Thirty*) Millions, she cannot surely be benefited by those *wonderful effects* which might be produced by an *equally wonderful Revenue* of *One Hundred and Thirty-one Millions and an Half*.

We

* By irreducible 5 per cent. Stocks, I mean, 5 per cent. Stocks having their *interest* irreducible.

We may observe from hence, that theoretical doctrines, founded on the remote powers of a Sinking Fund, computed at compound interest, are very likely to plunge into a labyrinth of difficulty those who shall place dependance upon them for *practical* purposes. The *Sinking Fund* is not the only thing to be considered: the *necessary interest* requires equal consideration; and the great *practical* question, from whence *alone* the practical financier can derive any real assistance, is, To ascertain such financial principle as shall require the *least* burthen of taxes that can be possible, for the *Interest* and for the *Sinking Fund* together, in order to bring the necessary capitals into action, and afterwards to repay them, so far forth, at least, as shall be necessary for preventing the debts and incumbrances from increasing to excess.

8. It is generally admitted as an undoubted truth, that without the establishment of some solid and permanent plan for the gradual diminution of the Public Debt, the incumbrances of this nation must, ere long, become increased to an excess beyond what the nation can be able to bear*. It is likewise generally admitted, that the nation cannot raise so large a Surplus Revenue or Sinking Fund, as would be required for keeping the debts and incumbrances within any reasonable bounds, if applied to the redemption during *Peace only*: This being admitted, it will necessarily follow, that, in order to give

B 4

the

* I have already observed, [Article 3.] that although this position is *generally* admitted, I have lately heard some very ingenious arguments importing that a diminution of the Debt is *not* necessary. I cannot, however, for the reasons briefly stated in the foregoing third Article, hesitate at giving the position a full admission.

the Sinking Fund a greater power, it must be applied to the Redemption of the Debt (not during *Peace only*, but) during both *Peace* and *War*. And this, as has been already observed, was the PRINCIPLE on which the Bill was founded.

9. But, on duly examining the nature and principles of the subject, and comparing them with the present state of our Public Debt, a most important question naturally arises, which, in the hurry of business, when the Bill was framed, escaped notice, to wit: In the present state of our Public Debt, can a Sinking Fund, *practically speaking*, be applied to its Redemption, in the manner mentioned in the Bill? I answer, It certainly cannot:—Or, at least, such a system of practice must be diametrically repugnant to those *immutable laws of nature* by which *causes* and *effects* are inseparably connected; and if, in obedience to a *positive Law*, a Sinking Fund be so applied, it can only produce an *additional increase* of Debt, instead of contributing towards the desired effect of keeping the Debts and Incumbrances within more reasonable bounds.

The truth of this observation will be perfectly evident, if we only consider, that when a new Loan shall be wanted, the stocks or annuities that shall be granted for such Loan must be granted to the subscribers at a price *below* the market-price, in order to give them a reasonable profit for the advancement of their money: And, in the present state of the Debt, (the redeemable stocks or annuities being below par,) the stocks or annuities that shall be redeemed or purchased up by the Sinking Fund must require the *highest* market-price: Wherefore, a
greater

greater quantity of stock or of annuity must be granted for each *One Hundred Pounds of the Loan*, that can be redeemed by each *One Hundred Pounds of the Sinking Fund*; and, consequently, the debts and incumbrances, instead of being kept within more reasonable bounds, must necessarily be *increased* by the *very act* of making the proposed redemption.

For example—Let it be supposed that *Ten Millions* over and above the ordinary expenditure, should be wanted for the Public Service; and that the Surplus Revenue or Sinking Fund to be issued to the Commissioners should amount to *Two Millions*: Let it also be supposed, that the stock on which the business be transacted should be worth in the market 80 *l.* cash for 100 *l.* stock; and that the *bonus* required for the advancement of the Loan should be *five per cent.* reckoning the stock at its usual market-price; in which case 131½ *l.* of stock, (which, at 80 *l.* would be worth 105 *l.* and would therefore, exactly, afford the required *bonus* of 5 per cent.) must be granted for each 100 *l.* of the Loan.

Now, if the whole *Ten Millions* so wanted be raised by Loan, the quantity of stock to be granted will be

£. 13,125,000

And the *Two Millions* Sinking Fund to be applied to the redemption by the Commissioners, will purchase up

2,500,000

Wherefore, the quantity of stock by which the Debt becomes actually increased will be

10,625,000

But if the *Two Millions* Sinking Fund were to be applied to the

current service, instead of being applied to the Redemption, only Eight Millions would be required to be raised by Loan, and the quantity of stock by which the Debt would so become increased, would be only

£. 10,500,000

And, consequently, the quantity of stock by which the Debt becomes increased, in case such redemption be made, exceeds the quantity by which it would become increased if *no redemption* was made, by

£. 125,000

10. It has been supposed by some (not indeed by many people) that, by applying the Sinking Fund to the redemption, in the manner above-mentioned, and raising the interest of the New Loans by new taxes, the *Revenue*, and therewith the *Sinking Fund*, would be increased, so as to counterbalance (or more than counterbalance) the loss so sustained; but this is a most extraordinary kind of argument. The self-same new taxes might *surely* be laid, and they would *surely* produce the self-same Revenue, whether the suppositious redemptions were or were not made; and, as the *Debt* (in case the suppositious redemptions were not made) would be *less*, so, consequently, the *Surplus Revenue* or *Sinking Fund* would be *greater*.

For example—Let it be supposed that the monies wanted for the Public Service should be *Ten Millions*: The *Surplus Revenue* or *Sinking Fund*

Fund *Two Millions*: The Market Value of the stock on which the business should be transacted, 80 *l.* and the *bonus* required for the advancement of the Loan, *five per cent.* as in the last example; and let it also be supposed, that the said stock should carry an interest or annuity of *four per cent.* on its Nominal Capital.

Now, if the whole *Ten Millions* so wanted be raised by Loan, the quantity of stock to be granted will be 13,125,000 *l.* as mentioned in the last example; and the Revenue required to be raised by New Taxes, for the payment of the interest or annuity thereon, will be

- - £. 525,000

And the *Two Millions* Sinking Fund will redeem (or purchase up) 2,500,000 *l.*; the interest or annuity on which is 100,000 *l.*; so that the said Sinking Fund becomes thereby increased to

- £. 2,100,000

But if the same additional Revenue of 525,000 *l.* be raised, and the *Two Millions* Sinking Fund be applied to the Current Service (instead of being applied to the Redemption), the quantity of stock to be granted will be 10,500,000 *l.* as mentioned in the last example, and the interest or annuity thereon will be 420,000 *l.* which subtracted from the said additional Revenue of 525,000 *l.* leaves 105,000 *l.* for the increase of the Surplus Re-

venue

venue or Sinking Fund: and the said Surplus Revenue or Sinking Fund of Two Millions, will thereby become increased to

2,105,000

Difference £. 5,000

Hence then, by making the abovementioned Redemption, the Debt (as was shewn in the last example) would be *greater* by 125,000 *l.* of stock, and the Surplus Revenue or Sinking Fund, wherewith to effect the *future Redemptions*, would be *less* by the annual sum of 5000 *l.* than would be the case if such Redemption was not made; the self-same taxes being raised in the *one* case as in the *other* *.

It is evident, therefore, that the idea of establishing an unalienable Sinking Fund to be uninterruptedly applied to the Redemption of the Debt, was taken up on a very erroneous hypothesis †. And that, unless each 100 *l.* of the Sinking Fund so to be applied, shall be previously enabled

* If the *actual* produce of the new Taxes should fall short of their *desired* produce, the deficiency would, in either case, remain to be afterwards provided for; or, on failure thereof, the *Surplus Revenue* or *Sinking Fund* would be diminished by the same amount; so that the above conclusion holds equally true, whether the new Taxes should or should not produce the sum for which they were laid.

† When I say that this idea was taken up on an *erroneous hypothesis*, I would not be understood to mean that the *idea itself* was erroneous in its *own* nature. A Sinking Fund ought to be applied uninterruptedly to the Redemption; but, it ought, previously, to be enabled to redeem a quantity of stock or of annuity equal to (or greater than) the quantity of stock or of annuity that shall be required to be granted for obtaining an equal sum of money in the market. Of this, more hereafter, in the second section.

enabled to redeem as great a quantity of stock, or of annuity, as shall be required to be granted for each 100*l.* of a new Loan, such system of practice can only produce an additional increase of the debts and incumbrances, instead of contributing towards the desired effect of keeping them within more reasonable bounds.

11. On the last consideration of the above-mentioned Bill, which immediately preceded its Third Reading in the House of Commons, the following alterations were made in it, *viz.*

First, It appeared in the course of the consideration, that that part of the Bill which related to the redemption of such of the redeemable annuities as should be *at* or *above par*, differed in some respects from the conditions of redemption laid down in the former Acts of Parliament by which those annuities were established *; and, as it would be considered as a breach of the public faith to make any alterations, without the express consent of the proprietors, the measures necessary to be taken for the redemption of those annuities were left for a *future* consideration of Parliament; and a new clause was introduced, directing that the Commissioners of the Sinking Fund should continue to purchase them up in the market *above par*, in case the necessary measures

* The Bill, so far as it respected the redemption of stocks that should be *at* or *above par*, directed that the redemptions should be made Quarterly, and that notice thereof should be published in the London Gazette on or before the first day of the calendar month which should commence next after the end of the preceding quarter. This was giving a notice of but little more than two months; whereas the former Acts of Parliament stipulated that six months notice should be given; and that the redemptions should not be made in payments of less than *Five Hundred Thousand Pounds*.

tures for redeeming them *at par* should not be previously established.

The intention of this new clause, as explained in the speeches, was, to secure the future attention of Parliament to the establishment of proper measures for the redemption of such of the redeemable annuities as should rise to *par*; by requiring the Commissioners to continue purchasing them up *at a loss*, in case Parliament should neglect its duty in that respect. This clearly shews, that the conditions of redemption laid down in the former Acts of Parliament were now considered to be improper; and that an alteration in them was intended to be brought about. The new clause might naturally induce *Parliament* to attend to the adoption of other conditions of redemption: But, as the consent of the *Proprietors* is acknowledged to be indispensably necessary; this question naturally arises, *viz.* How can this new clause, by declaring, that if future measures be not provided, the stocks shall be purchased up by the Commissioners *above par*,—How, I say, can this new clause operate to induce the *Proprietors* to acquiesce in future measures, whereby the stocks shall be redeemable *at par*? It must evidently have a contrary tendency, so long as the present Act shall remain in force*.

It

* It seems, indeed, as if the present Act was intended, principally, to engage and secure the attention of Parliament to a further consideration of the subject: and to the establishment of a more perfect system of redemption, in the room of the present Act. For, it would certainly be absurd to suppose, that it could be *really intended* that the public should be loaded with taxes for the purpose of purchasing *above par*, any annuities that are redeemable *at par*: And, it would be

It evidently appears, from what has been observed, that the only thing which had *thus far* been attended to, was, the circumstance of keeping the Sinking Fund continually applied to the redemption of the Debt, without regard to the price that might or might not be required for such redemption: But I have already shewn (in the foregoing 8th, 9th and 10th Articles) that that idea, although a just one in its own proper nature, was taken up on a very erroneous hypothesis.

12. The other alteration which was made in the Bill immediately preceding its Third Reading in the House of Commons, is a departure from the original intention of the Bill with respect to the *uninterrupted* application of the Sinking Fund to the Redemption of the Debt.

It was observed in the House, that if the Sinking Fund should be applied to the Redemption of the Debt in time of war, the *Loans* must necessarily be the greater; and government would of course be more at the mercy of the Money-Lenders, with respect to the *Terms* of the Loans, than would be the case if the Sinking Fund should be made applicable to the public Service: The *periodical accumulation* of the Sinking Fund, by the *interest* of the debt that would be paid off therewith, in case of its being so applied to the redemption, might, it was observed, be equally provided for, by laying additional taxes to the amount of the *interest* of such sums as should
be

be still more absurd to suppose, that the *four per cents* should be left to bear their interest, unredeemed, and the Sinking Fund be employed in the purchasing up of *three per cents*, which would require (in proportion to the annuity) a still *greater* price for their redemption.

be applied out of the Sinking Fund to the current service. A new clause was therefore introduced, authorizing the Commissioners of the Sinking Fund to apply the money in their charge towards the new Loans, when new Loans should be wanted; instead of applying it to the Redemption of the Debt, as had been before directed. And with these alterations the Bill passed into a Law.

13. The Act of Parliament, therefore, as it now stands, is, in substance, briefly this, *viz.*

First, That One Million a year [Two Hundred and Fifty Thousand Pounds quarterly], together with such of the temporary Annuities for Lives or Years as shall from time to time lapse or expire; and, together also with the Interests or Dividends on such parts of the Debt as shall be therewith from time to time redeemed, be regularly issued to the Bank and carried to the account of the Commissioners* of the Sinking Fund, until the annual sum so to be issued (including the abovementioned *One Million*, together with the temporary Annuities for Lives or Years fallen in, and the Dividends or Interests on the Debts redeemed) shall amount to *Four Millions*; after which, the said annual sum of *Four Millions only* shall be so issued; and the temporary Annuities for Lives or Years that shall
thenceforth

* The Commissioners appointed, are, the Speaker of the House of Commons, the Chancellor of the Exchequer, the Master of the Rolls, the Accountant General of the Court of Chancery, and the Governor and Deputy Governor of the Bank of England for the time being.

thenceforth fall in, as also the Dividends or Interests on the Debts that shall be thenceforth redeemed, shall remain for the further disposal of Parliament.

Secondly, That the monies so to be carried to the account of the Commissioners shall (except when new loans are wanted) be by them laid out in the purchase of the stocks (whether *below par* or *above par*, until further provision be made) in equal portions as nearly as may be, on every day (Saturdays and Mondays excepted) on which the same shall be transferable.

Thirdly, That, in case new loans should render it expedient, the monies carried to the account of the Commissioners, shall be by them applied towards such new loans, and the interest thereof provided for by new taxes, in the same manner as if such monies were advanced by private individuals.

Such, in brief, is the substance of the Act, as it now stands on the Statute Book *.

14. The new clause, respecting the application of the Sinking Fund towards the new Loans, gives up the *original intention* of applying it *sacredly* and *inviolably* to the redemption of the Debt, as well during *War* as *Peace*; because, by applying the Sinking Fund to the new Loans in time of war, the *actual redemptions* must be made during *peace only*. So far, however, as the new Taxes shall actually produce the interest of the monies so applied from the Sinking Fund, in addition to the interest of the monies actually borrowed, so far the accumulation of the Sinking

* 26 Geo. III. Cap. 31.

ing Fund will undoubtedly be preserved; and if this accumulation be actually continued long enough, it will undoubtedly become sufficient to stop the increase of the Debt, although applied to the Redemption during *peace only*. But this cannot be the case until the Sinking Fund shall have become so increased as to redeem as much debt *during peace* as shall be incurred *during war*:—Is there any reason to suppose such an increase to be actually practicable? It is generally admitted by all ranks of people, as well Ministers as others, that our debt is already become so large as to render us unable to raise the additional taxes that would be required for redeeming as much debt *during peace* as will necessarily be incurred *during war*. And, if this be the case, how can we expect to raise the additional taxes that will be required for that purpose, when the Debt (and consequently the interest thereon) shall have become *further increased* by new wars?

15. By this new clause, the losses that were *particularly* mentioned in the foregoing 9th and 10th articles will indeed be avoided, by avoiding (or omitting to make) the *Redemptions* there mentioned: But the *Cause*, from whence the losses attendant on *making the Redemptions*, naturally flow, still remains in its full force: And, while the *Cause itself* shall remain, the losses therefrom naturally flowing must unavoidably take place, whenever the redemption shall be attempted to be made. CAUSES and *Effects* are, in all cases, so inseparably connected by the immutable laws of nature, that the *Effect* cannot in possibility be got rid of but by the eradication of the *Cause* from whence it naturally flows. We may indeed make *Acts of Parliament*:—Superiors may command:
—Inferiors

—Inferiors may obey: and the disobedient may, in any case, be punished, according as those *Acts of Parliament* shall direct: But, notwithstanding all this, the immutable laws of nature (by which *Causes* and *Effects* are inseparably connected) are not to be counteracted.

The CAUSE from whence the abovementioned losses naturally flow, is this, to wit:—In the present state of the Debt, the quantity of Stock or of Annuity that will be required to be granted for each One Hundred Pounds of a Loan, must be greater than the quantity of Stock or of Annuity that will be redeemed by each One Hundred Pounds of the Sinking Fund.—If the *Loans* and the *Redemptions* be made on *one and the same day*, the losses thereon attendant are perfectly evident from what has been said in the foregoing 9th and 10th articles: And, if we reflect for a few moments, we cannot but be convinced, that the consequent losses must necessarily be produced, whether the *Loans* and the *Redemptions* be made on *one and the same day*, or whether the *Loans* shall be made on *one day* or *year*, and the *Redemptions* on a *different day* or *year* *. In either case, the price to be paid for the
the

* The Debt, in either case, must be, *in effect*, increased by making the redemptions: The only difference is this:—If the *Loans* and the *Redemptions* be made at one and the same time, the increase will be in the *quantity* of stock or of annuity of which the Debt shall be composed, as explained in the foregoing 9th and 10th articles: And, if the *Loans* be made at one time and the *Redemptions* at a different time, the increase will be in the *price* that will become required to be paid for the redemption. But, whether the increase shall be in the *quantity* to be redeemed, or whether it shall be in the *price* to be paid for the redemption, the difference is immaterial with respect to the *actual loss*.

the redemption of any Stock or Annuity, must be greater (exclusive of the *annuity itself*) than the price received; and from hence it is that the loss, in each case, proceeds.

16. It is not my intention, in this place, to enter into the method by which these difficulties may be removed: That shall be the business of a future section. For the present I shall take notice only of the calamitous consequences that must necessarily take place, if the system of redemption laid down in the present Act of Parliament should be practically persevered in.

The great bulk of our Public Debt consists, it is very well known, of *three per cent.* Stocks*: It is also well known, that a very considerable part of the *three per cents.* that were established during the course of the late war brought less than

* The following statement of the funded Debt is about mid-way between the different statements I have seen; and may be reckoned sufficiently near the truth for any general purpose of consideration, viz.

Three per cent. Stocks about	£. 187,750,000
Four per cents. — —	32,750,000
Five per cents. about — —	18,000,000
Sundry temporary Annuities for Lives and different Terms of Years; worth (for even numbers) about †	21,500,000

† Total (about) £. 260,000,000

And the annual charge thereon (including the expence of management) amounts to about £. 9,300,000

With respect to the Unfunded Debts, I have seen no regular statement; but I have been informed that their amount may be reckoned (for even numbers) at about *Ten Millions.*

† N. B. The *rise* in the prices of the stocks, since the passing of the Act of Parliament, has produced a considerable increase in this article, since the publication of my third essay.

than 60 *l.* in *money* for 100 *l.* of *stock*. But they are not (according to their original constitution) redeemable, without the consent of the proprietors, for a less sum than 100 *l.* in money; and, as the throwing of an additional quantity of money into the market for purchase, naturally causes their prices to rise; so, of course, any attempt to purchase them up, must necessarily produce such rise, until at length the public shall become obliged to pay 100 *l.* for the redemption, although less than 60 *l.* had been received. By this means the public would be saddled with a loss, in the redemption, of near *Sixty Millions*, which have never been received, nor any the most distant promise ever given with respect to their being paid.

Any attempt to effect a redemption by *purchasing up the stocks*, would naturally be productive of this effect; but the rapidity with which the effect would be produced, and the loss to the public thereon attendant, would be *greater* or *lesser* according to the *manner* of making the purchases, whereby a greater or lesser degree of *fluctuation* would be produced in the prices of the stocks.

17. If the purchases were made by giving notice to the Stock-holders that it was intended, at such a time, to pay off a part of the Debt, provided the terms to be by them proposed should be approved of; and that those whose proposals should be the most reasonable should be preferred; such method would be attended with the *least* loss that a redemption of the stocks by *purchase* could be capable of. Those of the Stock-holders who have different employments for their capitals would gladly accept of a price very little higher than the ordinary price of the market

for the time being; and the future prices of the stocks would be affected only by the quantity of stock so taken out of the market, and by the additional purchases that might thereafter be made with such parts of the money as might come round again, in the common course of circulation, to be so laid out. The rise in the value of the stocks that would be produced by this method of proceeding, would be slow, and of as permanent a nature as stocks of such a constitution are capable of. It would indeed be attended with a loss to the public in the future redemptions*; but the loss would be in some measure (though not effectually) atoned for, by a decrease in the rate of interest for money, with which such rise in the value of the stocks would be attended, whereby government would be enabled to obtain future loans on easier terms.

18. But if the redemptions be made by purchasing up the stocks daily in the market (as directed by the present Act of Parliament), those redemptions must necessarily produce more violent fluctuations in the prices of the stocks than those to which they have hitherto been subject; and those fluctuations must necessarily be attended with great additional loss and injury to the public.

The Sinking Fund, by being applied to the purchase of the stocks in the market, naturally causes an additional demand; and thereby naturally raises their price. The stocks being thus rising in price, many people who would otherwise employ their money in industrious occupations,

* This loss cannot be avoided but by the use of stocks of a different constitution; which I shall treat of in the future sections.

tions, naturally become induced to lay it out in the stocks (not for the sake of the interest or annuity but) from the expectation of gain by a future sale. Many people also, that are possessed of stock, and have occasion for their money in their respective callings, become induced to keep their stock for the sake of the expected rise; and to borrow money, even on *extravagant* terms, rather than sell out*. Every of these circumstances have a natural tendency to raise the prices of the stocks higher, and thereby cause the losses to the public, in the redemption, to be greater, than they otherwise would be. These observations are so perfectly evident in their own nature, that a bare mention of them is sufficient to evince their truth.

19. There is also another circumstance by which the prices of the stocks will be further affected; a circumstance arising from discommendable practices in the market, rather than from principles of actual reason. Sundry people, who make the stock-market their chief business, buy and sell *fictitiously* for no other end but to produce a temporary *rise* or *fall* in the prices of the stocks, according as the *one* or the *other* shall best suit their purposes. If they happen to know of there being positive orders for the *buying* of stock on or before a given day (as the closing of a mail, the sailing of a ship, or the like), these fictitious bargains are calculated to *raise* the prices of the stocks; or, if they know of

* I have been informed by gentlemen in that line, that it has actually been common, since the late rise in the stocks, to borrow money at the extravagant rate of *One and an Half* (and sometimes more) *per cent.* for six weeks; and to continue it at that rate from six weeks to six weeks for many months, which is giving an interest of more than *twelve per cent. per annum.*

of there being positive orders for the *selling* of stock on or before a given day, these fictitious bargains are calculated to produce a *fall* in the prices of the stocks.

The pernicious practices of Stockjobbing have been so universally known and complained of, from the first commencement of the Public Debt, that it is quite unnecessary to enter into a detail of them. I shall therefore only observe, that these fictitious bargains are often carried on, in the open market, after this manner; *viz.* A person announces himself as a *buyer* or *seller* (as the case may be) of such a quantity of stock:—Another announces himself as a *seller* or *buyer*, as the case may be:—The seller demands such a price; the buyer offers rather less; and, the bargain not being struck, a third person (who is also in the secret) declares himself to be the buyer at the price demanded. The next seller demands a price *an Eighth* or a *Quarter per cent.* higher than the last; another bids the price that was last given; but the bargain not being struck, a third person declares himself to be the buyer at the price demanded: and thus, when it is known that there are positive orders for *buying* on or before a given day, the market is raised. In like manner, when it is known that there are positive orders for *selling* on or before a given day, the market is sunk by fictitious sales*. These practices, among many others, contribute very much towards

* The truth of this observation is so well known to all who attend the stock-market, that those of my readers to whom the observation may be new (if any such there should be) will find no difficulty in satisfying themselves of its verity. I have been informed by a broker of the first reputation, that, at times, when it has been discovered that he has received orders for *buying*, even to the small amount of *eight or ten thousand pounds*, and has been limited, in time, to two
or

towards those sudden fluctuations which we often see in the prices of the stocks.

The Legislature, it is well known, has repeatedly endeavoured, by penal laws, to prevent the pernicious practices of stock-jobbing; but the nature of the case is such as does not admit of a remedy from penal laws. The only thing that can be done, is, to lessen the temptation, by securing to the stocks as permanent and steady a value as the nature of the thing can admit: and this can only be done by putting the Debt into such a course of redemption, as that the practices of stock-jobbing shall be attended with as little injury to the *public* as may be possible*. But the present Act of Parliament (by directing that the redemptions shall be made by purchasing up the stocks daily in the market, in equal portions as nearly as may be) evidently furnishes, however unintentionally, a peculiar encouragement to the abovementioned fictitious practice of raising the market; and every such artificial rise in the prices of the stocks evidently becomes an additional loss to the public in the redemption.

20. It is imagined by some (though not indeed by many) that although a rise in the prices of the stocks will naturally be attended with a loss to the public, in the redemption; yet, such loss will be counterbalanced by the decrease in the rate of interest which will therewith be produced, whereby people in business will be enabled to borrow money at a cheaper rate; and whereby

goven-
or three days, (which is often the case when the account is to be transmitted by a particular time), the market has been thus actually raised upon him *two* and sometimes *three per cent.* and has fallen again immediately afterwards to its former level.

* The manner of accomplishing this desirable effect will be shewn in the second section.

government will be enabled to obtain new loans (when new loans shall become wanted) on more reasonable terms.—But this (especially with respect to the obtaining of *new loans* on more reasonable terms) is a very great mistake.

How far a rise in the prices of the stocks shall or shall not be attended with a decrease in the rate of interest for money, depends on the *Cause* from whence such rise in the prices of the stocks shall be produced.

If the rise in the prices of the stocks shall be occasioned by actual redemptions, whereby large quantities of stock shall be taken out of the market; or, if it shall be occasioned by a permanent increase of wealth, whereby the *natural demand* for the stocks shall be increased; then, and in either of these cases, the rise in the prices of the stocks will naturally be attended with a decrease in the rate of interest for money; because, the quantity of money flowing into the hands of the lenders will be increased, and thereby the demands of the borrowers will be more easily supplied.

But, if the rise in the prices of the stocks shall be occasioned by an increase in the number of purchasers who buy on *speculation*, (not for the sake of the interest or annuity, but rather) from the hopes of gain by a future sale; it does not follow, that such rise in the prices of the stocks shall be attended with a decrease in the rate of interest for money.

Whether a rise in the prices of the stocks, occasioned by speculative purchases, shall or shall not be attended with a *temporary decrease* in the rate of interest for money lent on *private securities*, will depend on the degree to which such speculation shall or shall not be carried.

So far as such rise in the prices of the stocks shall induce Stock-holders (from the hope of a further and further rise) to borrow money, rather than sell out; so far it must evidently tend to produce an *increase* in the rate of interest for money, rather than a *decrease* *.

Should the speculative purchases be carried to such a degree, as that the rise in the prices of the stocks should intimidate the *more cautious* among the monied men, and induce them (from the danger of losing by a future depreciation of the stocks) to prefer lending their money on *private* security; then indeed (but not till then) such rise in the prices of the stocks would be attended with a *temporary* decrease of the rate of interest on *private* securities. This effect, however, would be only of a *temporary* nature; and, flowing (not from *permanent* causes, but) from the *danger* of a future *depreciation* of the stocks, it is an effect much more to be *feared* than *wished*.

21. Let us next consider how far a rise in the prices of the stocks shall render *Public Loans* obtainable on more reasonable terms.

The terms on which new loans are obtainable, are always dependant on the prices of the stocks. So far, therefore, as a rise in the prices of the stocks shall be of a *permanent* nature, so far new loans will naturally be obtainable on better terms. This will naturally be the case so far forth as the rise in the prices of the stocks shall be produced by actual redemptions diminishing the quantity of stock in the market, or by a permanent increase of wealth and of public revenue: because, a rise in the price of the stocks, so produced, will have a solid foundation.

It

* See the Note, page 23.

It may, however, be observed, that our debt is now so immensely large, that a very considerable diminution of it, or a very considerable increase of the national wealth, would be required, to produce this effect in any very material degree.

But, a rise in the prices of the stocks occasioned by temporary purchases (which must be the natural consequence of purchasing up the stocks in the manner directed by the present Act of Parliament) so far from rendering new loans obtainable on easier terms, must, in reality, produce effects diametrically contrary. As soon as it becomes seriously apprehended that a war will break out, and new loans become wanted, the speculative adventurers who had before flocked to market, as purchasers, from the hope of *gaining* by the further *rise* of the stocks, will naturally crowd to market as *sellers*, partly to avoid the loss on the expected *fall*, and partly to share in the advantages of the new loans: And the additional quantity of stock thus brought into the market for sale will naturally carry the prices of the stocks much *lower* than they would otherwise be, in the same manner as the speculative purchases carry them *higher* than they would otherwise be. The truth of this observation is equally supported by practical experience as by theoretical considerations. Those who have had much business in the stock-market, have noticed it, almost from the first commencement of the public debt: It is particularly taken notice of in a pamphlet, said to be written by Sir Nathaniel Gould, one of the Directors of the Bank, published in the year 1726; and, I will venture to say, that there are very few, if any, who have attended
the

the stock-market, that have not themselves made the same observation.

It is well known, that the expectation of gain by a further and further rise of the stocks at the conclusion of the peace in the beginning of the year 1783, created such an avidity for purchasing, that the *three per cents.* (which, in the beginning of the year 1782, sold at about 54 *l.*) were raised *temporarily* to 72 *l.* but, when it appeared that a considerable outstanding debt remained to be funded, the avidity for *purchasing* ceased, and was changed into such an avidity for *selling* as carried them down again to about 54 *l.* although in a time of *profound peace*. We may judge from this circumstance, which we have all seen with our own eyes, whether a rise in the prices of the stocks, occasioned by temporary purchases, can tend towards enabling government to obtain new loans on reasonable terms in the case of a *new war*.

This circumstance (among innumerable others) sufficiently evinces, that a rise in the prices of the stocks, occasioned by temporary purchases, is not of such a nature as to render new loans obtainable on reasonable terms. It must, on the contrary, in the present state of the debt, be attended with a two-fold loss and injury to the public. It must necessarily render the *redemptions* more expensive, as has been already observed; and, when new loans become wanted, the avidity for *purchasing* naturally becomes changed into an avidity for *selling*, which must naturally depress the value of the stocks, and thereby render the *terms of obtaining new loans* more expensive.—The rise in the prices of the stocks may, perhaps, for a time, dazzle the eyes of a superficial observer,

observer, but those who examine things will see clearly that every step must naturally render the alleviation of the public burdens more and more difficult; and, that a practical perseverance in such a system of finance, must render a public bankruptcy equally certain and inevitable, as the bankruptcy of a commercial House, whose *buying price* shall be constantly higher than its *selling price*.

I have, I believe, pointed out, to the satisfaction of every attentive reader, that the system of redemption laid down in the present Act of Parliament, is exceedingly defective; and must, if persevered in, be productive of the most fatal consequences.

22. When we consider, that, in the making of our public loans, the *annuity only* was alienated; and that the quantity of *nominal capital* or *stock* thereunto annexed (no part thereof being ever demandable, but being left entirely to a *future* agreement with respect to the actual terms of redemption) was so little regarded, either by government or by the Stock-holders, that an *Hundred Pounds of nominal Capital or Stock* was sometimes given for less than 70 *l.* sometimes for less than 60 *l.* and sometimes for less than 55 *l.* in money, whereby the *nominal capital* of our debt exceeds the monies that have been actually received, by near *Sixty Millions*: When we consider how very extravagant and unjust it would be (even if the nation was ever so able) for the public to be burthened with taxes for the purpose of paying such immense sums that were never received, nor any the most distant promise ever given with respect to their being paid:—When we also consider, that the *intention* of
of

of government, as declared at the opening of the present business, in the House of Commons, was, to administer the public monies with the utmost possible *economy*, and to establish a system of redemption on such permanent principles as should secure the *invariable* application of a sinking fund to the redemption of the debt, as well during *war* as *peace*; on which *invariable* application of the sinking fund, it was declared, the future preservation of the public credit of the nation must entirely depend: And, finally, when we consider that the system of redemption laid down in the present Act of Parliament, neither secures the invariable application of the sinking fund to the redemption of the debt on the *one hand*, nor contains any provision for the avoidance of the abovementioned extravagance in the redemption on the *other*; but, on the contrary, if persevered in, must render that extravagance still greater, by purchasing up the stocks *above par*:—When, I say, we consider these things, even were we to consider nothing further, it would be altogether unreasonable, as well as disrespectful towards those who are entrusted with the management of the public affairs of the nation, to suppose that the present system of redemption could have been intended for any other purpose than that of engaging and securing the further attention of Parliament to a more full and perfect consideration of the subject. I shall therefore omit to make any further observations on the defects of the present system, and shall proceed to point out the means, whereby (agreeable to the original intention of Government) the sinking fund may be preserved in its proper line of service as well during *war* as *peace*;

peace; and whereby also, the abovementioned losses may be avoided, with a mutual advantage to the public and to the creditors.

SECTION II.

Of the Means of securing the invariable Application of the Sinking Fund to the Redemption of the Debt, as well during WAR as PEACE.

1. **I**F we admit (and I believe it is *universally* admitted) that the nation is unable to bear such an increase of taxes as would be required for the purpose of paying off during *peace*, the debts that will necessarily be incurred during *war*;—If, I say, this be admitted, it must be perfectly evident, that the application of a sinking fund, to the redemption of the debt during *peace only*, can never prevent the further and further increase of our public incumbrances *ad infinitum*; and, it will necessarily follow, that no effectual check can be given to their further and further increase, unless a sinking fund be applied to their redemption (not during *peace only*, but) during both *peace* and *war*. If, therefore, it be required to keep the debts and incumbrances within any finite bounds or limits, the *perpetual* application of a sinking fund to the redemption of the debt, as well during *war* as *peace*, must never be lost sight of.

2. Again,—It has been demonstrated in the 9th and 10th articles of the foregoing section, (and indeed it would be sufficiently evident from a simple *consideration* only, without any trouble of *demonstration*,) that, unless *each One Hundred Pounds*

Pounds of the Sinking Fund be enabled to redeem a quantity of *stock* or of *annuity* equal to (or greater than) the quantity of *stock* or of *annuity* that shall be required to be granted for *each One Hundred Pounds of a Loan*, the sinking fund cannot be so applied to the redemption; or, at least, if it be so applied, it can only produce an *additional increase* of the debts and incumbrances, instead of keeping them within more reasonable bounds.

Hence then, The only possible method of securing the invariable application of a sinking fund to the redemption, whereby to prevent the excessive increase of the debts and incumbrances, must be, to enable *each One Hundred Pounds of such Sinking Fund* to redeem a quantity of *stock* or of *annuity* equal to (or greater than) the quantity of *stock* or of *annuity* that shall be required to be granted for *each One Hundred Pounds of a Loan*.

The circumstance of securing the invariable application of the Sinking Fund to the redemption of the debt, as well during *war* as *peace*, is of such immense importance, that it is impossible to impress it too strongly on the reader's mind. I will therefore beg leave to repeat, in order to impress it the more strongly,

First, That, unless the taxes be so increased as to pay off as much debt during *peace* as shall be incurred during *war*, (which, I believe, is universally admitted to be impracticable) the only *possible* method of preventing the further and further increase of our debts and incumbrances *ad infinitum*, must be, to apply a sinking fund to the redemption (not during *peace* only, but) during both *peace* and *war*. And,

D

Secondly,

Secondly, That the Sinking Fund *cannot* be so applied, (or, at least, if it be so applied, it can only produce an *additional increase* of the debts and incumbrances, instead of keeping them within more reasonable bounds) unless *each One Hundred Pounds of the said Sinking Fund* be enabled to redeem a quantity of *stock* or of *annuity* equal to (or greater than) the quantity of *stock* or of *annuity* that shall be required to be granted for *each One Hundred Pounds of a Loan*.

3. Again,—It is evidently impossible for *each One Hundred Pounds of a Sinking Fund* to redeem a quantity of *stock* or of *annuity* equal to (or greater than) the quantity of *stock* or of *annuity* that shall be required to be granted for *each One Hundred Pounds of a Loan*, unless the *value* or *price* at which such *stock* or *annuity* shall be taken for the loan, be equal to (or greater than) the *par* or *price* at which it shall be redeemable.

In order, therefore, for the Sinking Fund to be preserved in its proper line of service, it is indispensably necessary that the debt so to be redeemed, should consist of redeemable stocks, whose market value shall be constantly as much (or more than as much) *above par*, as shall be required to be allowed, by way of *premium*, for the advancement of new loans.

4. Further,—It is perfectly evident, that the market value of an annuity stock cannot be *above par*, unless the rate of interest (or annuity) thereunto annexed be higher than the market rate of interest for money; neither can such value of the stock *above par* be secure, unless the interest

OF

or annuity thereunto annexed be sufficiently secured from reduction.

It is likewise evident, that the interest or annuity annexed to the stock cannot be secured from reduction, and the stock itself be at the same time redeemable, unless the *tender* to be made for the redemption be *limited*, so as not to exceed, periodically, a *certain proportion* of the capital.

Hence, then, in order to preserve the invariable application of a Sinking Fund to the redemption of a public debt, it is *absolutely* and *indispensably* necessary, that the debt so to be redeemed should consist of stocks, bearing an interest higher than the market interest for money, subject to a *limited tender* for the periodical redemption of the capital.

The above arguments are so perfectly clear and incontestible, that I cannot entertain a doubt but every attentive reader (at least, every one who admits the necessity of checking the further and further increase of our debts and incumbrances, and the impracticability of increasing the taxes to such a degree as would be required for the purpose of paying off as much debt during *peace*, as will necessarily be incurred during *war*) will be fully satisfied (not only of the inefficacy of the system of redemption laid down in the aforementioned Act of Parliament, but also) of the *absolute impossibility* of accomplishing the effects required, unless the Sinking Fund be rendered applicable to the redemption, as well during *war* as *peace*, by a *conversion of the debt* into stocks bearing a *higher interest* than that of the market, subject to a *limited tender* for the periodical redemption of the capital.

5. It has been doubted, by some, whether a conversion of the debt, could, in actual practice, be effected, with any *real advantage*. But, if we seriously consider the nature of the case, even for a single moment, the doubt immediately vanishes. I have shewn above, that (unless the taxes shall be increased to such a degree as to pay off as much debt during *peace* as shall be incurred during *war*; a thing which, I believe, every body admits to be impracticable) nothing but a conversion can, in possibility, prevent the further and further increase of the debts and incumbrances *ad infinitum*. If, then, it be *advantageous* to prevent such continual increase of the debts and incumbrances, it must necessarily follow, that a conversion of the debt (whereby alone that increase can be prevented) must be advantageous also.

6. It may perhaps be objected, that, ‘as the conversion of the debt cannot be effected but by the voluntary act or transcription of the creditors; it can by no means be supposed that they would subscribe to the conversion, unless the terms offered were such as should afford them an actual advantage.’ And hence, it may perhaps be asked, ‘How can the conversion be thus advantageous to the creditors, and be at the same time advantageous to the public?’

The answer is simply this: In the present state of the debt, the *redeemable stocks* (being liable to an *unlimited* tender for their redemption at *par*) have no secure capacity for rising in value *above par*; and, the *gain* which the creditors derive from the rise in the prices of the stocks *below par*, is a *loss* to the public in the redemption:

tion: but, by a conversion of the debt into stocks bearing a higher interest, subject to a *limited* tender for their redemption, the *new* stocks will have a more extensive capacity for rising in value, for the advantage of the creditors, than the *present* stocks have; and this rise (being *above par*) will *not* be attended with loss to the public in the redemption; but will, on the contrary, be attended with advantage to the public as well as to the creditors. Hence it is, that a conversion of the debt into stocks of this kind can always be effected with a mutual advantage to all parties. This will be more particularly explained in the following sections, where I shall treat of the comparative values of annuity stocks bearing different rates of interest, subject to different tenders for their redemption; and of the advantages with which stocks, subject to *limited* tenders will naturally be attended.

SECTION III.

Of the comparative Values of Annuity Stocks bearing different Rates of Interest, and subject to different Tenders for their Redemption.

1. **I**N the second section of my second essay (and again at page 16 of the third essay) I demonstrated the following proposition, viz.

If any annuity stock bearing any rate of interest higher than that of the market, be subject to a limited tender in discharge of the capital, equal to the annuity or interest therefrom periodically flowing; the value thereof will be the same as if

such annuity was perpetual, and the rate of interest half-way between that of the market and that of the stock *.

2. I did not extend my former essays to the doctrine of stocks subject to *different* tenders for their periodical redemption; partly because the reader is often discouraged on opening a *large* field of deduction, although he might be very willing to labour through a smaller one; and, partly, because stocks, subject to a *periodical tender* equal to the *annuity*, are the most simple (both in theory and practice) for a *general* or *universal* rule; neither would any *general* or *universal* rule, founded on any other *tender*, be equally advantageous to the public and to the creditors, taking all the fluctuations of the value of the stocks into consideration together.

In sundry cases, however, it might be convenient to vary from such general rule, either in a greater

* That is to say,—

Let $a = C \times r - i$ = the annuity or interest flowing from any stock or capital C bearing a rate of increase r equal to the ordinary rate of interest for money in the market :

$A = C \times R - i$ = the annuity or interest flowing from any stock or capital C (equal in *nominal capital* to the former) bearing any rate R higher than the ordinary rate of interest for money in the market ;

V = the value of the annuity A , or, (which is the same) the value of the stock or capital C bearing the rate R ;

Then,—If the stock or capital C bearing the rate R shall be subject to a *limited tender* for its periodical redemption at par, equal to the *annuity* A therefrom periodically flowing ;

we shall have
$$V = \frac{A}{\frac{r+R}{2} - i}$$

greater or a lesser degree, according to the particular state and circumstances of particular nations, and their respective public creditors.

A minute discussion of the particular variations that might, or might not, with propriety, be adopted in particular cases, would require a large volume. I shall therefore only observe here, that a tender *greater* than the annuity would, in all cases, be less advantageous to the creditors, than a tender *equal* to the annuity would be*: And, that the *less* the tender shall be, the greater the public debt must become, before its increase can be checked.

In any nation, the more, where it shall be necessary, for the mutual security of the public and of the creditors, to check the increase of the public debt *with all convenient speed*, it would not be consistent with the interests either of the public or of the creditors, to make use of stocks subject to a tender *less* than the annuity.

It may, however, be observed, that the propriety or impropriety of making use of stocks subject to a tender *less* than the annuity, will depend on the *necessity* which there may or may not be for checking the increase of the debt *with all convenient speed*; and, on the danger that may or may not be apprehended with respect to the consequent accumulation of debt.

If we admit (what I believe is universally admitted) that, in commercial nations, a public debt, to a reasonable amount, is attended with conveniency and advantage, rather than inconveniency or disadvantage: And, if we also admit (what I believe is likewise universally ad-

D 4

mitted)

* See the second section of the second Essay.

mitted) that, in some nations, a public debt may, without danger or inconveniency, be permitted to increase to a greater degree, in proportion to their wealth, than in other nations: If, I say, this be admitted, it will naturally follow, that (although a *tender* equal to the *annuity* or *interest* shall be more proper than any other *tender* considered as a general or universal rule, yet) some nations may, without danger or inconveniency, make use of stocks subject to a *lower tender* than might be proper for other nations to make use of: And, on this account, the doctrine of the comparative values of annuity stocks, subject to *different* tenders for their periodical redemption, is highly worthy of consideration.

3. The principal Theorem on which this part of the subject depends, is this, viz.

If any annuity stock or capital bearing any rate of interest higher than that of the market, be subject to any limited tender *per centum* for its periodical redemption at par; the *value* of such stock will bear the same proportion to the *nominal capital*, as the sum of the *Tender* and *Interest on the stock*, shall bear to the sum of the *Tender* and *Market-Interest* *.

For example— Suppose it were required to know the value of 100 l. of *five per cent. stock*, subject to

* That is,—

Let T = the tender; and the other symbols as before;

Then, I say, As $T + a : T + A :: C : V$

or, (which is the same)

$$V = \frac{T + A}{T + a} \times C$$

DEMONSTRATION.

to a tender of *four per cent. per annum* for the periodical redemption of the capital; the market interest for money being $3\frac{1}{2}$ per cent. per annum.

Say—As $7\frac{1}{2}$, the sum of the *tender and market interest* :

is to 9, the sum of the *tender and interest on the stock* ::

So is 100, the nominal capital :

to 120 *l.*, the value required.

Again,—Suppose it were required to know the value of 100 *l.* of *three per cent. stock* subject to a tender of *one per cent. per annum* for the periodical redemption of the capital; the market interest for money being two per cent. per annum :

Say

DEMONSTRATION.

I. At the fifth step of the algebraic process contained in the second section of my second Essay (and contained again at page 16, &c. of the third Essay) it is demonstrated, that, If any annuity stock or capital (*C*), bearing any rate of interest (*R*) higher than that of the market (*r*) be subject to any periodical ratio (*R*) of redemption by par payment, the value

thereof will be

$$V = \frac{a}{r-1} + \frac{\overline{A-a} \times R}{rR-1}$$

II. Wherefore, putting the tender = *T*, as above, we shall

$$\text{have } \frac{C}{R} = C - T; \text{ and thence } R = \frac{C}{C-T}$$

III. Whence (I and II.)

$$V = \frac{a}{r-1} + \frac{\overline{A-a} \times \frac{C}{C-T}}{\frac{rC}{C-T} - 1}$$

IV. Which (by reduction) is $V = \frac{a}{r-1} + \frac{\overline{A-a} \times C}{rC - C + T}$

V. But (per data, see page 38)

$$a = C \times r - 1 = rC - C; \text{ whence}$$

$$\frac{a}{r-1} = C, \text{ and thence } V = C + \frac{\overline{A-a} \times C}{T+a}$$

VI. Which (by reduction) is $V = \frac{T+A}{T+a} \times C$

WHICH WAS TO BE DEMONSTRATED.

Say—As 3, the sum of the *tender* and *market interest* :

is to 4, the sum of the *tender* and *interest on the stock* : :

So is 100, the nominal capital :

to $133\frac{1}{3}$ £. the value required,

And the like universally, where the interest on the stock shall be higher than the market interest for money *.

4. But, should the market interest for money be higher than the interest on the stock, the value of the stock would then be proportionate to the *interest only*, without taking the *tender* into the computation; because, in that case, no tender could be applicable to the redemption, otherwise than by actual purchase, at a price equal to (or higher than) the market price.

If, for example, it were required to know the value of 100 £. of *three per cent. stock* (whether subject to a tender of *one, two, or three per cent. per annum* for its periodical redemption), the market interest for money being four per cent. per annum; we should say,

As 4, the market interest :

is to 3, the interest on the stock : :

So is 100, the nominal capital :

to 75 £. the value required.

5. It is necessary, however, to observe, that, as the market interest for money is liable to variation; and, as the variations thereof are attended with *different* degrees of variation in the value of different stocks, according to the terms of redemption to which such stocks shall be respectively

ly

* The reader will please to *remember* this rule, to prevent the necessity of repeating it, at large, at every computation.

ly liable; some stocks will naturally be *preferred* in the market before other stocks, according as there shall be a greater or lesser probability of an actual variation in the market interest for money; and according as the respective stocks shall have a greater or lesser capacity for rising or falling in value, in conjunction with that variation of the market interest for money: And, in consequence of this preference, the *market value* or *price* of one stock (if there should be more stocks than one) would naturally be carried a little higher or a little lower than its *computed value*, compared with that of a different stock.

In stocks, subject to limited tenders, not exceeding the annuity or interest, for their periodical redemption, the variation or difference between their *computed value* and their *market value* or *price* will, indeed, be small. It may not, however, be amiss, to say a word or two respecting it.

6. If there should be sundry stocks bearing different interests, all higher than the market interest for money for the time being, and each stock be subject to one and the same tender per centum for the periodical redemption of the capital, there will be a small preference in favour of that stock which shall bear the highest interest; and its *market value* or *price*, in consequence of such preference, will be carried rather higher than its *computed value*, compared with the other stocks. Because, in conjunction with a *decrease* of the market interest for money, the higher stock would *rise* in value, in the same proportion as the lower stock would rise; but, in conjunction with an *increase* of the market interest for money, the higher stock would not *fall* in value in so great

great a proportion (for a time) as the lower stock would fall.

For example—Suppose the market interest for money, for the time being, to be $3\frac{1}{2}$ per cent. per annum; and let there be two stocks, the one bearing *four per cent. per annum*, and the other bearing *five per cent. per annum*, each subject to a tender of *three per cent. per annum* for the periodical redemption of the capital.

In this case, the computed value of 100 l. of the *four per cent. stock* would be * $107\frac{2}{3}$ l. and the computed value of 100 l. of the *five per cent. stock* would be † $123\frac{1}{3}$ l. so that the computed value of 100 l. of the *four per cent. stock* and the computed value of $87\frac{1}{2}$ l. of the *five per cent. stock* would be equal to each other.

The computed values of the two stocks will likewise continue to hold this proportion, (that is to say, the computed value of 100 l. of the *four per cent. stock*, and the computed value of $87\frac{1}{2}$ l. of the *five per cent. stock*, will continue equal to each other) whatever variations may or may not take place in the market interest for money, so long as the said market interest for money shall not exceed *four per cent. per annum*.

If, for instance, the market interest for money should become *4 per cent. per annum*, the computed value of each would be

	‡ £. 100
If 3 per cent. per annum	116 $\frac{2}{3}$
If 2 per cent. per annum	§ 140
	If

* As $6\frac{1}{2} : 7 :: 100 : 107\frac{2}{3}$. [Remember the Note, p. 42.]

† As $6\frac{1}{2} : 8 :: 100 : 123\frac{1}{3}$.

‡ As $7 : 7 :: 100 : 100$; And, As $7 : 8 :: 87\frac{1}{2} : 100$.

|| As $6 : 7 :: 100 : 116\frac{2}{3}$; And, As $6 : 8 :: 87\frac{1}{2} : 116\frac{2}{3}$.

§ As $5 : 7 :: 100 : 140$; And, As $5 : 8 :: 87\frac{1}{2} : 140$.

If 1 per cent. per annum, (which is lower than can ever be expected in actual practice) the computed value of each would be

£. * 175

And hence, 100 l. of the *four per cent. stock* can never become worth more than $87\frac{1}{2}$ l. of the *five per cent. stock*, however low the market interest for money may fall.

But, should the market interest for money become *higher* than four per cent. per annum, 100 l. of the *four per cent. stock* would be worth *less* than $87\frac{1}{2}$ l. of the *five per cent. stock*.

If, for instance, the market interest for money should become $4\frac{1}{2}$ per cent. per annum, the computed value of $87\frac{1}{2}$ l. of the *five per cent. stock* would be † $93\frac{1}{3}$ l. but the computed value of 100 l. of the *four per cent. stock* would be only ‡ $88\frac{8}{9}$ l.

Should the market interest for money become *five per cent. per annum*, the computed value of $87\frac{1}{2}$ l. of the *five per cent. stock* would be || $87\frac{1}{2}$ l. but, the computed value of 100 l. of the *four per cent. stock* would be only § 80 l.

Now, seeing that 100 l. of the *four per cent. stock* cannot, in possibility, become worth *more* than $87\frac{1}{2}$ l. of the *five per cent. stock*, but may, in possibility, become worth *less*; there is no man that would give so much for 100 l. of the *four per cent. stock*, as he would give for $87\frac{1}{2}$ l. of the *five*

* As 4 : 7 :: 100 : 175; And, As 4 : 8 :: $87\frac{1}{2}$: 175.

† As $7\frac{1}{2}$: 8 :: $87\frac{1}{2}$: $93\frac{1}{3}$.

‡ As $4\frac{1}{2}$: 4 :: 100 : $88\frac{8}{9}$.

|| The market interest for money being the same with the interest on the stock, the computed value of the stock will of course be *par*.

§ As 5 : 4 :: 100 : 80.

five per cent. stock, although their computed values, according to the market interest for money for the time being, should be equal. When, therefore, stocks shall bear an interest higher than the market interest for money, each stock being subject to the same tender per centum for the periodical redemption of the capital, there will be a preference in the market in favour of the *higher stock*; and its *market value or price* (compared with that of the other stocks) will be carried rather higher than its *computed value*. Which was to be proved *.

7. Again,—If there should be sundry stocks bearing different interests, all lower than the market interest for money for the time being, and each stock be subject to the same tender per centum for the periodical redemption of the capital, there will be a small preference in the market in favour of that stock which shall bear the lowest interest; and its *market value or price* will thereby be carried rather higher than its *computed value*, compared with the other stocks. Because, in conjunction with an *increase* of the market interest for money, the higher stock would *fall* in value, in the same proportion as the lower stock would fall; but, in conjunction with a *decrease* of the market interest for money, the higher stock would not *rise* in value (for
a time

* If the lower stock should be subject to an *unlimited* tender for its redemption (as is the case with the present stocks of Great Britain), and the higher stock subject to a *limited* tender; the market preference in favour of the higher stock would be much greater than if both stocks were subject to a *limited* tender: because, in that case, the stock subject to an *unlimited* tender would have no secure capacity for rising in value above par: but, when above par, would be liable to a reduction of the interest.

at least) in so great a proportion as the lower stock would rise.

For example—Let the market interest for money for the time being be $5\frac{1}{2}$ per cent. per annum; and let there be two stocks, the one bearing *four per cent. per annum*, and the other bearing *five per cent. per annum*, each subject to a tender of *three per cent. per annum* for the periodical redemption of the capital.

In this case the computed value of 100 l. of the *four per cent. stock* would be $72\frac{8}{11}$ l. and the computed value of 100 l. of the *five per cent. stock* would be $90\frac{10}{11}$ l. so that the computed value of 100 l. of the *four per cent. stock*, and the computed value of 80 l. of the *five per cent. stock*, would be equal to each other.

The computed values of the two stocks will likewise continue to hold this proportion (that is to say, the computed value of 100 l. of the *four per cent. stock*, and the computed value of 80 l. of the *five per cent. stock*, will continue equal to each other), whatever variations may or may not take place in the market interest for money, so long as the said market interest for money shall not be less than 5 per cent. per annum.

If, for instance, the market interest for money should become 5 per cent. per annum, the computed value of each would be

If 6 per cent. per annum	£. 80
If 8 per cent. per annum	66 $\frac{2}{3}$
	50
	If

* As $5\frac{1}{2} : 4 :: 100 : 72\frac{8}{11}$.

† As $5\frac{1}{2} : 5 :: 100 : 90\frac{10}{11}$.

‡ As 5 : 4 :: 100 : 80 ; And, as 5 : 5 :: 80 : 80.

§ As 6 : 4 :: 100 : 66 $\frac{2}{3}$; And, as 6 : 5 :: 80 : 66 $\frac{2}{3}$.

§ As 8 : 4 :: 100 : 50 ; And, as 8 : 5 :: 80 : 50.

If 10 *per cent. per annum*, (which is higher than can be expected in actual practice, particularly in a commercial country) the computed value of each would be * £. 40

And hence, 80 *l.* of the *five per cent. stock* can never become worth more than 100 *l.* of the *four per cent. stock*, however high the market interest for money may rise.

But, if the market interest for money should become lower than 5 *per cent. per annum*, 80 *l.* of the *five per cent. stock* would be worth less than 100 *l.* of the *four per cent. stock*.

If, for instance, the market interest for money should become $4\frac{1}{2}$ *per cent. per annum*, the computed value of 100 *l.* of the *four per cent. stock* would be † $88\frac{2}{3}$ *l.* but, the computed value of 80 *l.* of the *five per cent. stock* would be only ‡ $85\frac{1}{3}$ *l.*

Should the market interest for money become 4 *per cent. per annum*, the computed value of 100 *l.* of the *four per cent. stock* would be † 100 *l.* but, the computed value of 80 *l.* of the *five per cent. stock* would be only § $91\frac{3}{7}$ *l.*

Now, seeing that 100 *l.* of the *four per cent. stock* cannot, in possibility, become worth less than 80 *l.* of the *five per cent. stock*, but may, in possibility, become worth more; there is no man but what would give more for 100 *l.* of the *four per cent. stock*, than he would give for 80 *l.* of the *five per cent. stock*, although their computed value, deduced according to the market interest for money,

* As 10 : 4 :: 100 : 40 ; And, as 10 : 5 :: 80 : 40

† As $4\frac{1}{2}$: 4 :: 100 : $88\frac{2}{3}$.

‡ As $7\frac{1}{2}$: 8 :: 80 : $85\frac{1}{3}$.

|| As 4 : 4 :: 100 : 100.

§ As 7 : 8 :: 80 : $91\frac{3}{7}$.

money, for the time being, should be equal. When, therefore, stocks shall bear an interest *lower* than the market interest for money, each stock being subject to the same tender per centum for the periodical redemption of the capital, there will be a preference in the market, in favour of the lower stock, and the *market value* or *price* of such lower stock will thereby be carried rather higher than its *computed value*, compared with the other stocks. Which was to be proved*.

8. We may, however, observe, that although, when there shall be different stocks, there will naturally (for the reasons abovementioned) be a small preference in the market, either in favour of the one stock or of the other, as the case may be; yet, when it is considered, that this preference relates only to the degree in which the one stock shall *rise* or *fall* in value (in conjunction with a variation in the market interest for money) *faster* or *slower* than the other stock: when it is also considered, that, amidst the most extreme variations

* If the lower stock shall be subject to an *unlimited* tender for its redemption (as is the case with the present stocks of Great Britain), and the higher stock be subject to a *limited* tender; the market preference in favour of the lower stock will be much less than if both stocks were subject to a *limited* tender: because, in that case, the lower stock would have, on the whole, a much less capacity for rising in value than the higher stock would have. There may, indeed, be cases, wherein 80 *l.* of five per cent. stock subject to a *limited* tender for its redemption will be worth considerably more than 100 *l.* of four per cent. stock subject to an *unlimited* tender. This, for instance, would be the case, if the market interest for money should be as low or lower than *three* per cent. per annum; because, in that case, the *four per cent. stock* (being subject to an unlimited tender for its redemption) would be liable to a reduction of the interest, which the *five per cent. stock* (by being subject only to a limited tender) would be secured from.

variations of the market interest for money, 100 *l.* of *four per cent. stock* (each stock being subject to the same tender of *three per cent. per annum* for the periodical redemption of the capital) can never be worth so little as 80 *l.* nor so much as 87½ *l.* of *five per cent. stock*: and, when it is further considered, that the variations which may or may not actually take place in the market interest for money, depend on circumstances that are continually liable to be counteracted by intervening contingencies, which can never be foreseen; and are, therefore, in their very nature, uncertain: when, I say, these things are considered, it will naturally follow that, whether the preference for the time being shall be in favour of the one stock or of the other, the *difference* thereby produced, between their respective *market prices*, and their *computed values*, deduced according to the market interest for money for the time being, must *commonly* be insignificantly small, and can *never* be so great as to create a difficulty, with respect to ascertaining the allowance that ought in reason to be made.

Hence, likewise, it may be observed, that, in case a public debt should at any time become so large as to require a more than usual attention to its redemption; there can never be any difficulty in effecting a conversion of the debt from a *lower stock* to a *higher*, for the purpose of facilitating such redemption, and for securing the constant application of the sinking fund to its proper line of service.

These observations naturally lead us to a more particular consideration of the Public Debt of Great Britain; and of the means of effecting a conversion thereof, whereby *alone* (as was shewn in

in the second section) the constant application of the sinking fund to the redemption, can be secured; and from whence *alone* there can be any hope of preventing the further and further increase of the public debts and incumbrances, till the public credit shall become swallowed up in a public bankruptcy.

SECTION IV.

A brief View of the Rise and Progress of the Public Debts of Great Britain;—the Mistakes that have been made with respect to the Manner of conducting the Funding System;—the Ease with which those Mistakes might have been from time to time (and may still be) rectified, by a Conversion of the Debt;—and, the Benefits with which such Conversion would be attended, as well to the Creditors as to the Public.

1. **I**N taking a brief view of the rise and progress of our Public Debts, it will be unnecessary to go further back than the revolution. The trifling debts that were occasionally incurred previous to that æra, were either short anticipations of the revenue, or debts contracted by the crown without any regular fund, and which seldom amounted to half a million. The whole of the public incumbrances with which the nation was charged after the revolution, for debts contracted before that period, amounted only to between Six and Seven Hundred Thousand Pounds*.

E 2

2. The

* Sir John Sinclair's History of the Revenue, Part II. chap. iii. page 46.

2. The revenue, in the reign of King James II. amounted to about *Two Millions* a year, which was then thought a good deal; and the friends of the Prince of Orange held forth the reduction of the revenue as a strong motive for a change in the government. When, therefore, the revolution was accomplished, the duty called *Hearth-money* (which produced about 245,000 *l.* per annum) was repealed, by way of gratifying the people. The remaining taxes (which before had yielded 1,755,000 *l.* clear of all expences) became so unproductive, in consequence of the wars and factions in which the nation was embroiled, that, in the year 1695 (the 7th year of King William) they yielded only * 811,949 *l.* which was less than the *one half* of their former produce: and the New Taxes that had been laid on were likewise so unproductive, that they did not amount to the *One Half* of what the Old Taxes had fell short.

To have burthened the nation with Additional Taxes, sufficient to defray, within the year, the annual expences of the war, after having held forth a Reduction of the taxes as a principal motive in favour of the revolution; would doubtless have endangered the new Government, even supposing the public had been ever so able to pay such Additional Taxes. Under these circumstances, therefore, the incurring of a public debt was certainly very *natural*, if we may not likewise say *unavoidable*.

3. The debts incurred during the reign of King William, and remaining undischarged at his death, amounted (funded and unfunded) to about
Sixteen

* Sir John Sinclair's History of the Revenue, Part II. chap. iv. page 51.

Sixteen Millions and an Half; attended with an annual charge of about 1,320,000*l.* It consisted, partly of money borrowed at 8 per cent. interest; partly of temporary annuities, some for Years, and some for Lives; and partly of unfunded debts: but it is not necessary at this time to enter into particulars with respect to the separate articles; especially as the following reign did not afford opportunity for diminishing them.

4. The wars in which the nation was engaged during the reign of Queen Anne, made an addition of about $37\frac{3}{4}$ millions to the public debt; so that, at the death of that Princess, the debt amounted to about $54\frac{1}{4}$ Millions.

5. The reign of George I. was, in the general, a period of tranquillity, and afforded a very favourable opportunity for putting the debts and finances into the most desirable state. It may not be amiss, therefore, to mention the principal heads of the public debt as it stood at this monarch's accession to the crown, and the steps that were taken during this reign, for putting it into a course of redemption.

A perfectly accurate statement of the public debts, as they then stood, can hardly be expected; I shall, therefore, omit entering into the niceties of odd pounds, shillings, and pence, and shall content myself with giving the heads of the several articles, in the nearest round numbers.

From the best accounts that can now be obtained, the public debts at the death of Queen Anne (or at the accession of the House of Brunswick) stood as follows, or thereabout, very nearly; *viz.*

	Principal.	Interest or Annuity.
Capitals bearing interest at 6 per cent.	£. 13,220,000	—793,200
Ditto bearing interest at 5 per cent.	3,200,000	—160,000
Ditto (for sundry Ex- chequer Bills) bearing interest at the rate of about $7\frac{1}{8}$ per cent.	4,680,000	—335,400
	£. 21,100,000	—1,288,600
Sundry Temporary An- nuities for Lives and for Long and Short Terms of Years, worth about	28,100,000	—1,861,400
Sundry unfunded Debts bearing interest (on an average) at 4 per cent. amounting to about	5,050,000	—202,000
Total about	£. 54,250,000	—3,352,000

Sir John Sinclair, in his History of the Revenue (Part II. page 91), states the debt at the death of Queen Anne, at 54,145,363 *l.* 11 *s.* 4*d.* bearing an interest of 3,351,358 *l.* 3 *s.* 3*d.* In Postlethwayt's History of the Revenue, page 152, it is stated at 54,542,545 *l.* 11 *s.* 1*d.* in the year 1716. We may, therefore, safely conclude, that the above statement of 54,250,000 *l.* cannot be very wide from the truth.

As every writer on the subject has complained of great mismanagement in the mode of contracting the above debt; it might perhaps appear singular in me to be entirely silent on it. It is, however, so remote, that I shall be very brief.

6. A very great part of the abovementioned six per cent. capital (to wit, about Nine Millions thereof) was composed of debts, tallies, and deficiencies, which (to the great injury of the original creditors) were suffered to remain unprovided for, till they fell to a discount of more than 40 per cent. and had nearly ruined the credit of the nation. They were at length funded at Par (to the great advantage of those who purchased them) and, with the addition of other monies advanced, formed the stock of the South Sea Company.

7. Another part of the abovementioned 6 per cents was composed of 1,200,000 *l.* which had been advanced by the bank in the reign of King William, at 8 per cent. ; and 400,000 *l.* advanced by the bank in the reign of Queen Anne, without interest, in consideration of a prolongation of their charter. This 400,000 *l.* was generally considered to have been *given* by the bank for the prolongation of its charter ; but it was nevertheless added to the former 1,200,000 *l.* lent at 8 per cent. and thereby formed a capital of 1,600,000 *l.* bearing 6 per cent.

8. The abovementioned five per cent. capital was composed of 2,000,000 *l.* advanced by the East India Company in the reign of King William, at 8 per cent. ; and 1,200,000 *l.* advanced by the East India Company, without interest, in the reign of Queen Anne, in consideration of a prolongation of their charter. This 1,200,000 *l.* was also generally considered to have been *given* by the East India Company for the renewal of their charter ; but it was nevertheless added to the former 2,000,000 *l.* lent at 8 per cent. thereby making a capital of 3,200,000 *l.* bearing 5 per cent.

9. Sundry Exchequer Bills were issued, and the interest thereof charged on funds that stood previously mortgaged for four or five years; during which time, the interest and the premiums for circulating these bills were paid quarterly in fresh Exchequer Bills, which produced a quarterly accumulation of debt at compound interest.

10. The life annuities were granted without paying any regard, in the price, to the difference of the ages of the annuitants, and some of these annuities that were granted at Ten Years Purchase, in the reign of King William, remain still a burthen on the public. The losses sustained by the public from the other temporary annuities, have likewise been justly complained of.

11. Neither were these complaints confined to matters of mere Mismanagement. The officers of government were said to have been guilty of the most fraudulent practices; some of which were actually proved, but the offenders were suffered to go unpunished.

Sir John Sinclair, in his History of the Revenue, Part II. page 52, mentions one fraud of an enormous nature: I shall beg leave to transcribe the passage.

“ Exchequer Bills, when first issued, were not
 “ entitled to any interest; but when paid in, on
 “ account of any tax, they received upon the
 “ second issue (if indorsed by the proper officer)
 “ an interest of 5 *l.* 12 *s.* per annum. This en-
 “ couraged several of the officers of the Excise
 “ and Customs to contrive together to get great
 “ sums of money by false indorsements, before
 “ such Exchequer Bills had been circulated.
 “ Many officers had enriched themselves by this
 “ fraud;

“ fraud; and Duncombe, Receiver General of
 “ Excise, had amassed a fortune of 400,000 l.
 “ A Bill passed the House of Commons, fining
 “ this flagrant offender in about one half of
 “ that sum; but it was rejected by the Lords,
 “ in consequence of the exertions of a noble
 “ Duke, who was suspected of having been gained
 “ over by a golden sacrifice. The other persons
 “ guilty also escaped.”

12. It appears likewise to have been a common practice with those who were in power, to put off the settling of a fund for any particular debt due by the public, until the shares of those who were interested as creditors sold at a very great loss. Those who were in the secret then bought them up, and the deficiency was immediately supplied.

Upon the whole it appears, that more than Ten Millions of the debt, as it stood at the accession of the House of Brunswick, had been occasioned by frauds; and by such exorbitancies in the *discounts* and *premiums* as were produced by *actual* (though perhaps in some instances *not intentional*) *mismanagement*.

Those who would wish for more minute information, will please to consult Sir John Sinclair's History of the Revenue, and the other works therein referred to.

13. The reign of George I. was, in the general (as I observed before) a period of tranquillity; and several important financial operations took place in this reign.

The regular punctuality with which the public annuities were paid, and the ease with which they were transferable, rendered them a very convenient property for the employment of monies

monies that had used to lay from time to time unemployed and unproductive, in the coffers of the wealthy: and the additional sums thus brought into circulation, naturally produced a decrease in the rate of interest.

In the year 1715, government found itself able to procure a loan at Five per Cent; and, as money was thus obtainable at Five per Cent. there could certainly be no reason why the public should continue paying Six per Cent. for the monies that had been raised on redeemable capitals.

14. It was therefore proposed to the creditors in the year 1716, either to accept of Five per Cent. interest, or to have their capitals paid to them. The creditors accepted of the interest offered, and thus the principal part* of the redeemable debt was converted into stocks bearing Five per Cent.

This reduction of the interest was not, at the time, unpopular, even among the creditors themselves. The savings that were thereby produced being directed by Parliament to be applied as a sinking fund towards the redemption of the principal; the creditors considered, that although their annual interest was lessened, yet, their principal was rendered much more secure; which, at that time, was considered to be an object of much more importance than the interest.

15. The greater half of the Public Debt, at the accession of the present Royal Family, consisted
(see

*. The 1,600,000 l. that had been advanced by the Bank (as mentioned in the foregoing 7th Article) was not included.

(see the statement, page 43) of temporary Annuities for Lives, and for Long and Short Terms of Years. The price of these Long and Short Annuities was continually increasing, as the rate of interest decreased; so that no effectual measures could be taken for lessening the Public Debts, while so large a proportion thereof remained in this irredeemable state. The converting of these annuities into a Redeemable Stock, was therefore justly considered as an object of the utmost consequence.

In order to put this part of the debt into a redeemable state, the proprietors of the long and short annuities, (or such of the said proprietors as should think proper) were permitted, by Act of Parliament, to transcribe them into the capital of the South Sea Company, at the rate of 5 *l.* of the Long Annuity, or $7\frac{1}{7}$ *l.* of the Short Annuity, for 100 *l.* capital; the said capital to bear 5 per cent. interest, till 1727, and afterwards 4 per cent. until redeemed*.

The chief part of these annuities were accordingly transcribed, to the great benefit of the public. It may not, however, be amiss to observe, that although many of these annuities had already run more than twenty years, the conversion cost government a capital of above *Three Millions* more than had been originally received for

* This conversion was effected about the latter end of the year 1719, or early in the year 1720. The false reports propagated shortly after this by the Directors of the South Sea Company, with respect to the profits of their commerce, and their pretended votes of large dividends thereon, which produced what is commonly called the *South Sea Bubble*, are not matters appertaining to the *Public Debt*, and do not therefore come within the limits of this summary.

for them. I mention this, as an instance, to shew the improvidence of this kind of annuities.

16. It was likewise further proposed to the proprietors of the other redeemable capitals in general, either to receive their Principal, or to signify their acceptance of Four per Cent. Interest, from and after the year 1727. The interest proposed was generally accepted; and thus the chief part * of the debt became (in the year 1727) converted into capitals bearing four per cent.

This second reduction of the interest was not so well relished by the creditors at large as the first had been; but, as government was able to borrow money at Four per Cent. it would be unreasonable to suppose that the public should be burthened with taxes for the purpose of paying Five per Cent. on capitals that were redeemable at pleasure. It is, however, rather to be wondered at, that the creditors did not endeavour to obtain such stipulations and conditions with respect to the redemption of this Four per Cent. capital, as should secure them against *further* reductions of the interest; nor can this be easily accounted for, but from their not having studied the nature and principles of the subject. Had the creditors stipulated that this New Four per Cent. Stock should be subject only to a *limited tender of so much per centum* for the periodical redemption of the capital, with the privilege of suspending the tender on certain fixed principles, in cases where it should be inconvenient to receive it, after the manner mentioned in the third section of my third essay, they would have

* The 1,600,000 l. formerly advanced by the Bank, (as mentioned in the foregoing 7th Article) was not included.

have thereby secured their interest or annuity from being further reduced by the borrowing of money on new capitals, wherewith to discharge the old ones; without any prejudice to the periodical diminution of the debt by a Sinking Fund: nor can it be doubted but such a stipulation would have been readily acceded to by Government. But this (the subject not having been investigated) did not occur.

The reduction of the interest on the Public Debt to 4 per cent. which took place in 1727, produced an annual saving to the public of about 377,400 *l.*; which, together with the annual savings arising from the reduction of the interest in 1716; and, together also with the temporary annuities fallen in, and the surpluses of the funds called the *Aggregate*, the *South Sea*, and the *General Funds*, formed a clear Sinking Fund of about 1,000,000 *l.* (or rather more than 1,000,000 *l.*) per annum.

The principal of the debt underwent but little diminution during this reign. It was diminished only to about 52,000,000 *l.*

Such was the state of the Public Debt and Sinking Fund at the demise of King George the First, in the year 1727.

17. "If any æra since the revolution," as Sir John Sinclair very justly observes, "was to be pointed out, in which our Ministers were peculiarly culpable for neglecting to take solid and substantial measures to restore good order in our finances, it must be that of the commencement of the reign of King George the Second:" to wit, from his Majesty's accession in 1727, to the breaking out of the Spanish war in 1739.

Further

Further reductions of the interest were held in contemplation. In the year 1737, a reduction of the interest on the Public Debt to Three per Cent. was agitated in Parliament; but the differences of opinion, with respect to the propriety or impropriety of carrying it into execution, were so exceedingly great, that no measures were adopted*.

With respect to the Practicability of the above reduction, there could be no kind of doubt: for, some Three per Cent. Stocks had been already granted (for monies raised by lotteries, &c.); and those Three per Cent. Stocks then bore a premium in the market. And, it could not but appear perfectly unreasonable, that the public should be burthened with taxes for the purpose of paying Four per Cent. on a capital that was redeemable at pleasure, when money could be obtained at Three per Cent. wherewith to discharge such capital.

On the other hand, it is equally necessary to observe, that reductions of interest, if carried too far, are productive of very dangerous consequences. If, for instance, the interest on any stock shall be reduced so low as to let the capital value thereof fall afterwards to a discount, the honest creditor is not only injured by the depreciation of the value of his capital, but government likewise becomes unable to raise new loans without granting an Additional Capital, over and above the

* It appears that these differences of opinion were very much increased by that unhappy spirit of party which but too often prevails in this country, to the great detriment of the Public Interest. The Minister, [Sir Robert Walpole] it is said, exerted himself against the adoption of any measures, because the proposal was made by Sir John Barnard, who, on some other occasions, had voted against the Minister. See Sir John Sinclair's History, Part II. page 109.

the money actually received; or giving, in some way or other, a Premium equivalent (or more than equivalent) to such Additional Capital. In this case, the Advantages gained by the reduction of the Interest, would become defeated, and turned into a Capital Loss *. Hence, had the subject been regularly discussed, this important question would naturally have arisen,—to wit, What are the necessary measures whereby the proposed advantages may be obtained, and these dangerous consequences avoided?

18. Had the nature and principles of Public Credit been investigated, the solution of this question would have been exceedingly easy. It would have been simply this:—‘ If, instead of reducing the interest to Three per Cent. by granting 100 *l.* of Three per Cent. Stock, in lieu of each 100 *l.* of the Old Four per Cents.; —if, I say, instead of granting such 100 *l.* of Three per Cent. Stock, 87½ *l.* of New Four per Cent. Stock were granted, subject to a Limited Tender of Four per Cent. per Annum, for the periodical redemption of the capital; equal advantages would be obtained, and the dangerous consequences avoided: the creditors, likewise, would much rather accept of 87½ *l.* of such New Four per Cent. Stock † than have their interest reduced to Three per Cent.’ Such would have been the answer to the question;

* The Loans raised during the two last wars (of which I shall speak in their turns) furnish very melancholy proofs of the truth of this observation.

† It must be remembered, that when I speak of stocks of this kind, I *always* mean, that, for the *conveniencies* of the creditors, the privilege of suspending the tender on certain fixed principles (as mentioned in the third section of my third essay) should be a part of the constitution of the stock.

tion; and such was the measure that ought to have been adopted when the reduction of the interest was proposed in 1737 *. But the nature and principles of the subject not having been investigated, the differences of opinion with respect to the propriety or impropriety of further reductions of the interest (being heated too by party dissensions) were so irreconcilable, that nothing was done, with respect to the finances, during this most valuable period of twelve years preceding the Spanish war, except the discharging of about *Five Millions* of the debt, by occasional payments †.

19. At the breaking out of the Spanish war in 1739, the Public Debt stood as follows, or thereabout as nearly as can well be ascertained ;
viz.

* This will be more fully explained when we come to speak of the transactions of 1749; when the motion for a reduction of the interest was again put and carried.

† I say *occasional payments* in contradistinction to *regular payments*; for, it must be noted, that the *Sinking Fund* was not regularly applied to the redemption of the debt according to the original intention, but was diverted to any other service where money was required.

	Principal.	Interest or Annuity.
<i>Viz.</i> —Capitals bearing		
6 per cent. £.	1,600,000—£.	96,000
4 per cent. (about)	38,250,000—	1,530,000
3½ per cent.	400,000—	14,000
3 per cent. (about)	2,750,000—	82,500
	43,000,000—	1,722,500
Sundry temporary Annuities for <i>Lives</i> , and for <i>different Terms of Years</i> , worth about	2,250,000 —	178,000
Sundry unfunded debts amounting to about	1,250,000—	37,500
Total about * £.	46,500,000—£.	1,938,000

20. We may observe here, that during a period of 25 years, from the demise of Queen Anne, in 1714, to the breaking out of the war in 1739, (a period in which the public tranquillity was but little interrupted, and those interruptions attended with but very little expence,) the capital or principal of the Public Debt was diminished only about Seven Millions and Three Quarters; to wit, from about 54,250,000*l.* to about 46,500,000*l.* and,

* Sir John Sinclair, (in his History of the Revenue, Part II. page 79) states the principal at 46,954,623*l.* and the interest or annuity at 1,964,025*l.* Doctor Price (in his Additional Observations on Civil Liberty, page 144) states the principal at 46,382,650*l.* and the interest or annuity at 1,903,861*l.* We may, therefore, conclude, that the above statement cannot be very wide from the truth, although I cannot take upon myself to say which of the *three* may be the most perfect.

and, that during the same period, the interest or annuity thereon was diminished (partly by reductions of the interest, and partly by the falling in of the temporary annuities) from about 3,352,000*l.* to about 1,938,000*l.* which of itself (exclusive of the *further* surpluses of the funds which formed the sinking fund) produced a saving of about 1,414,000*l.* per annum; a sum amply sufficient, had it been properly applied, to have given all the check, to the future increase of the debt, that could have been necessary.

21. During the course of this war, the bank advanced 1,600,000*l.* *without Interest*, in consideration of a prolongation of its charter: this sum was added to the 1,600,000*l.* mentioned above, bearing 6 per cent. and thereby formed a capital of 3,200,000*l.* bearing Three per Cent. The East India Company, likewise, in consideration of a prolongation of their charter, lent to government 1,000,000*l.* at Three per Cent. when the market interest for money was higher. These bargains have been justly complained of as being very improvident. They create an *appearance* of obtaining a valuable consideration for the renewal of the charters; but, at the same time, convert the consideration money so received, into a debt. It must, however, be observed, that in a time of war, government being as it were in the power of the lenders, a favourable bargain on the part of the public cannot be expected to be made. The complaints, therefore, with respect to these bargains, ought, in justice, to extend no farther than this; to wit, that bargains of this kind (and indeed all other bargains which the exigencies of the state do not render *immediately necessary*) ought, as much as possible,

possible, to be *avoided* in time of war, and made in time of peace, when government can treat with the creditors on fair and equal terms.

22. The further sums of 6,400,000 *l.* bearing 3 per cent. 1,000,000 *l.* bearing $3\frac{1}{2}$ per cent. and about 19,500,000 *l.* bearing 4 per cent. (together with other sums unfunded) were likewise added to the debt during the course of the war; and when the stocks were at a discount, the loans were made by giving Premiums (in Additional Capitals, Lottery Tickets, and Life Annuities) equal to the Discounts to which the stocks had fallen.

This method of making the loans has also been justly complained of, as being productive of great loss to the public in the redemption *. It must, however, be observed, that these losses can be avoided *only* by the use of stocks that shall have a free and secure capacity for rising in value *above par*, for the advantage of the creditors, without prejudice to the public with respect to the price to be paid for the periodical redemptions: for, when a man can lay out his money in any stock at a Discount, with the prospect of obtaining such or such an advantage from the future rise of the stock; he cannot, consistent with his own interest, advance it on any other stock without having *an equal* prospect of advantage. When, therefore, we complain of the improvidence of this method of making the loans, we ought not to lay actual blame on those who conducted

F 2

them :

* The stocks on which the Loans were made during the course of this war, were, I believe, generally, above 90 *l.* so that these losses did not amount to any great sum, compared with those of the two latter wars, of which I shall speak in their turn. During this war from 1739 to 1748 these losses might perhaps amount to about *Two Millions*.

them : we ought, in justice, only to lament, that the nature and principles of the subject had not been investigated, whereby to ascertain the necessary properties of an annuity stock, that would secure to the creditors the *advantages of the rise*, without saddling the public with *loss* in the redemption. The stock necessary for this purpose is, 'A stock bearing a higher interest than the ordinary rate of the market, subject to a *limited tender* for the periodical redemption of the capital.'

After the war was closed, and the expences arranged, our Public Debt stood as follows, or thereabout, very nearly, *viz.*

	Principal.	Interest or Annuity.
Capitals bearing		
4 per cent. (about)	£. 57,750,000—	2,310,000
3½ per cent.	1,400,000—	49,000
3 per cent. (about)	13,350,000—	400,500
	£. 72,500,000—	2,759,500
Sundry temporary Annuities for <i>Lives</i> , and different Terms of <i>Years</i> , worth about	3,000,000—	212,200
Sundry unfunded debts amounting to about	2,750,000—	82,500
Total * about	£. 78,250,000—	3,054,200

23. The

* Sir John Sinclair, (in his History of the Revenue, Part II. page 85) states the principal at 78,293,313 *l.* and the annuity or interest at 3,061,004 *l.* Doctor Price (in his Additional Observations on Civil Liberty, page 147) states the principal

23. The war was no sooner ended, and the expences thereof arranged, than the proposal of Sir John Barnard, (which had been rejected in the year 1737) for reducing the interest on the Public Debt, was re-taken up; and Mr. Pelham, then Chancellor of the Exchequer, intimated publickly, during the Session which began in November 1748, his intention of embracing the first favourable opportunity that should offer for carrying it into effect.

In the next session of Parliament, to wit, in November 1749, a Resolution passed the House of Commons (and was afterwards formed into an act), to this effect;—‘ That such of the proprietors of the Four per Cent. Capitals as should, within three months from the date of the resolution, signify their acceptance, should continue to receive Four per Cent. Interest until December 1750; Three and an Half per Cent. from thence until December 1757; and afterwards Three per Cent. until redeemed: And, that in case any of the said proprietors should not so signify their acceptance of such *Interest*, his Majesty should be enabled to borrow money wherewith to pay them their *Principal*.’

The measure met with little or no opposition in Parliament, but, when it was proposed to the Creditors, the East-India Company were greatly

F 3

dissatisfied;

principal at 78,166,906l. and the interest or annuity at 2,765,608l. This difference in the annuity or interest arises thus:—Doctor Price states the debt as it stood before the commencement of the next war in 1755, and adds the redemptions that had been made during the intermediate peace, calling *their sum*, the debt as it stood at the end of the preceding war; so that the interest or annuity mentioned in the Doctor’s statement is that which remained after the Four per Cents. became reduced to $3\frac{1}{2}$ per Cent. at the end of the year 1750.

dissatisfied; the Bank refused its consent; and the proposal was so generally reprobated and exclaimed against by the proprietors at large, and so very few of them had signified their acceptance of the proposal when the period approached, that many people expected it to fail*. The Creditors, however, were too wise to their own interest, to continue in their refusal, or to suffer the time wholly to elapse, although they had delayed so long that the *whole* of them could not come in, under the first proposal.

The Three per Cents. at the time we are speaking of, were above *par* in the market:—It was evident therefore, that while this should continue to be the case, Government could obtain money at Three per Cent. wherewith to pay off the Four per Cents. It was likewise evident that such of the Creditors as had no other employment for their money, could not obtain even *so much* as Three per Cent. by laying it out in the stocks, in case their Principal should be paid to them. Such of the Creditors, therefore, as had no other employment for their money, however displeased they might be at such a reduction of their annual income, had only this choice,—to wit,—‘either to accept of the *proposed* reduction, or to suffer ‘a *still greater* one.’ Their *pecuniary interest*, as would naturally be supposed, got the better of their *displeasure*; and although very little had been subscribed till within *three weeks* of the expiration of the time limited, forty millions (or thereabout) were subscribed before the time expired.—The remainder (except about three millions and an half, which were paid off by loans at Three per Cent. and

* Sir John Sinclair’s History of the Revenue, Part II, pages 112, and 118.

and by the produce of the sinking fund) was afterwards subscribed on terms, less advantageous to the proprietors, than those at first offered: the *second* subscribers were reduced from $3\frac{1}{2}$ to 3 per Cent. at Christmas 1755: the *first* received $3\frac{1}{2}$ till Christmas 1757.

Had the nature and principles of the subject been understood, the Creditors would never have left themselves open to this reduction of the interest, when, during the preceding war, they had it so fully in their power to secure themselves against it. Had they then stipulated that their capitals should be liable only to a tender of *so much per centum* for their periodical redemption*, they would have secured themselves against this reduction of the interest, without any prejudice to the necessary diminution of the debt by a sinking fund. But (the subject not having been investigated) this did not occur: and the tender for the redemption being *unlimited*, it was in vain to think of resisting the reduction of the interest, when money could be borrowed cheaper.

24. The above reduction of the interest has been very highly approved of by some, as a most judicious, and masterly stroke of finance;—by others, again, it has been very highly disapproved of, as a very injudicious measure, and pregnant with infinitely more evil than good.

To state the arguments *for* and *against* the measure at length, would require a good deal of room.—The subject, however, is so very important; and this point, in particular, is so essentially necessary to be rightly understood; that I should think myself unpardonable, if I did not repeat, here, so

F 4

much,

Remember the note, page 42.

much, at least, as should bring it to a proper decision.

25. It would evidently be very unreasonable and unjust, that the public should be loaded with taxes, for the purpose of paying Four per Cent. Interest, on capitals redeemable at pleasure, when money could be borrowed at Three per Cent. wherewith to discharge such capitals.—“When-
“ever (says Sir John Barnard, who originally pro-
“posed this reduction of the interest) money
“can be borrowed cheaper than the interest paid
“by the public, it is incumbent on Parliament
“ (with great deference be it spoken), and what
“ the nation have a right to expect from them, to
“ make use of the opportunity, in order to give
“ the people in general all the ease in their power.”
—This argument in favour of reductions of interest, is so incontrovertibly evident, just, and forcible, (considered as a *general argument*) that it is unnecessary to give any other.

But let us see what may be said on the other side of the question.

26. It must be evident to every body, who considers ever so little of the nature of the subject, that if the interest be reduced so low, as to let the value of the capital fall afterwards to a discount in the market, the honest creditor is not only injured by such depreciation; but, Government likewise becomes thereby unable to raise new loans, without granting an *additional capital* (equal to such *discount*), over and above the money actually received; or giving, in some way or other, a *premium* equivalent to such additional capital.—For, when a man can lay out his money in any stock at a *discount*, with a prospect of obtaining such or such an advantage from the future rise of the
the

the stock; he cannot, consistent with his *own interest* (which is always the *primum mobile* in all pecuniary considerations), advance it on any other terms but such as shall afford him an *equal* (or a *greater*) prospect of advantage. And hence, if reductions of interest are carried so far as to let the value of the capital fall afterwards to a *discount*, they are liable to be attended with much more evil than good.—This argument *against* reductions of interest, is equally just and incontrovertible, as the foregoing argument *in favour* of them*.

27. The above arguments, *for* and *against* reductions of interest, being equally just and incontrovertible; it will necessarily follow that there must exist *in nature*, a PRINCIPLE of some kind or other, (however great the labour of ascertaining such principle may or may not be) on which those arguments, so far at least as shall relate to their *essence*, will become reconcileable the *one* with the *other*: for, it is morally impossible, and contrary to nature, that *one* just argument or position can be

* Doctor Price considers the arguments *against* reductions of interest to be *far more forcible* than the arguments *in favour* of them. At page 26 of his Statement of the Public Debts in January 1783, he says, "Reductions of interest are some of the most dangerous temporary expedients: They only postpone calamities by accumulating them and rendering them less possible to be avoided, To them we owe those pernicious modes of borrowing, of which so much has been said in these papers; and that vast weight of artificial debt, which, if our debts are ever redeemed, must be discharged with money, though no money has been received for it." I must, however, confess myself surprised that the Doctor should consider the arguments *in favour* of reductions of interest to be *less forcible* than those *against* them: the *unreasonableness* of paying Four per Cent. interest for capitals redeemable at pleasure, when money can be borrowed at Three per Cent. is perfectly *self-evident*.

be *inconsistent* with *another* argument or position that shall *also* be just.

28 Had the nature and principles of the subject been investigated, it would have been found, (and the attentive reader will *now* have no difficulty in perceiving) that the *essence* of *both* the above arguments would have been effectually preserved; the proposed advantages effectually obtained; and the dangerous consequences effectually avoided; if, instead of granting 100*l.* of Three per Cent. Stock, in exchange for 100*l.* of the old Four per Cents. and thereby reducing the interest to Three per Cent. there had been granted (in exchange for each 100*l.* of the said old Four per Cents.) 87½ of New Four per Cent. Stock, subject to a *limited* tender of Four per Cent. per annum, for the periodical redemption of the capital.* And, this measure would also have been much more acceptable to the Creditors, than the reduction of their interest to Three per Cent.

The reduction of the interest from Four per Cent. to Three per Cent. by granting 100*l.* of Three per Cent. Stock in exchange for 100*l.* of the Old Four per Cents. produced a saving of One Fourth Part of the annuity, and no Part of the capital: the above measure of granting 87½*l.* of New Four per Cent. Stock in exchange for 100*l.* of the Old Four per Cents, would have produced a saving of One Eighth Part of the annuity, and One Eighth Part of the capital; which said Two Eighths are equal to One Fourth:—Thus far, therefore, (taking the *interest* and the *redemptions* into consideration together) the advantages arising to the public would have been equal. But, by granting 87½*l.* of New Four per Cent Stock, instead of granting

* Remember the note, page 42.

ing 100*l.* of Three per Cent. Stock, the above-mentioned *dangerous consequences*, to which reductions of interest are liable, would have been entirely avoided; because, the *ratio* or *proportion* (to wit, Four per Cent.) between the *annuity* and the *capital* would have remained unaltered.—By so much, therefore, as the *dangerous consequences* resulting from the reduction of the interest might amount to; by so much, the last-mentioned measure would have been preferable to the former.

The creditors would likewise have preferred the last-mentioned measure far before a reduction of their interest or annuity, in the common way, to Three per Cent. for two reasons,—to wit:—First,—Because $87\frac{1}{2}$ *l.* of the New Four per Cent. Stock would be worth more than 100*l.* of the common Three per Cents. in all possible cases whatsoever; however *high*, or however *low* the market interest for money might or might not be.* —And secondly,—because the *limitation* of the tender to which the New Stock should be liable, for its periodical redemption, would have removed all apprehensions under which they might labour,

* If the market interest for money was a *stationary* or *invariable quantity*, there would then be *one* (and *only one*) possible case, in which the value of 100*l.* of the common Three per Cent. Stocks, would be *equal* to the value of $87\frac{1}{2}$ *l.* of the above-mentioned New Four per Cents:—This would be the case, if the market interest for money was *stationary* at Three per Cent. But, the market interest for money not being *stationary*; and $87\frac{1}{2}$ *l.* of the New Four per Cent. Stock being worth more than 100*l.* of the common Three per Cents. whenever the market interest shall be either *higher* or *lower* than Three per Cent. there can be no *possible case* in which 100*l.* of the common Three per Cent. Stocks can be worth so much as $87\frac{1}{2}$ *l.* of the abovementioned New Four per Cents.—See the *principles* laid down and demonstrated in the foregoing third section. See also the tables in the appendix.

labour, with respect to *further* reductions of the interest.

The above measure (of granting $87\frac{1}{2}\%$ of New Four per Cent. Stock, instead of reducing the interest by granting 100% of Three per Cents.) would likewise have secured the constant application of the sinking fund to the redemption of the debt, and prevented it from being diverted to other services : because, the interest or annuity on the stock being *higher* than the market interest for money ; the sinking fund would redeem a greater quantity of Stock or of Annuity, than would be required to be granted in order to obtain an equal sum of money in the market. And, this constant application of the sinking fund to the redemption of the debt, would naturally have supported the value of the stocks from depreciation, and prevented that immense load of artificial debt under which the nation now groans. It cannot, therefore, be too much lamented, that the nature and principles of this important subject had not been regularly investigated, previous to the above-mentioned reduction of the interest in 1749.

29. The above reduction of the interest, produced an annual saving of near $570,000\%$. and was the only financial operation that requires to be particularly noticed, during the peace from 1748 to 1755. The diminution of the capital was but little attended to. Only a little more than three millions thereof were discharged, and part of the unfunded debts provided for ; so that our Public Debt, at the breaking out of the next war in 1755, stood nearly as follows ; viz.

Capitals

	Principal.	Interest or Annuity.
Capitals (bearing 3 per cent. from and after 1757, which being then so near at hand, I shall consider it as being accomplished) about —	£.70,800,000—	£.2,124,000
Sundry temporary annuities for lives, and different terms of years, worth about	2,900,000—	210,000
Sundry unfunded debts amounting to about	1,300,000—	39,000
Total about*	£.75,000,000—	£.2,373,000

30. During the war from 1755 to 1763, rather more than Seventy One Millions and an Half was added to the debt; which increased it to rather more than 146½ millions.

The dangerous consequences to which too great a reduction of interest is naturally liable (as mentioned in the foregoing 26th article) became practically verified during the course of this war.
The

* Sir John Sinclair (in his History of the Revenue, Part II. page 88) states the principal at 74,571,840*l.* and the interest or annuity at 2,416,717. Doctor Price (in his Additional Observations on Civil Liberty, page 147) states the principal at 75,077,264*l.* and the interest or annuity, previous to the reductions that fell in in 1755 and 1757, at 2,654,018*l.* from which last-mentioned sum, those reductions (amounting, according to the Doctor's note in page 140, to 290,381*l.*) being subtracted, leaves 2,363,637*l.* for the interest or annuity. The above statement, being in the *midway* between these, may be considered sufficiently near the truth, whichever of the three may be the *nearest*.

The stocks fell to so great a discount, that it became necessary, in raising the loans, to grant *artificial capitals*, and temporary annuities, by way of *premiums*, in consequence of such discount, to the amount of about Twelve Millions and an Half, over and above the monies actually received for the public service.*

This method of making the loans has been very justly complained of by almost every writer on the subject, as being highly improvident and injurious to the public; by requiring immense sums to be paid for the redemption beyond what was ever received. It is necessary, however, to repeat here, what I observed in the foregoing 22d article; to wit, that ‘these losses can be avoided only by the use of stocks that shall have a free and secure capacity for rising in value *above par* for the advantage of the creditors, without prejudice to the public with respect to the price to be paid for the periodical redemptions:’—because, as I have observed already, (and I shall beg leave to repeat it again and again), ‘when a man can lay out his money in any stock at a *discount*, with a prospect of obtaining such or such an advantage from the future *rise* of the stock; his own interest will not suffer him to advance it on any other stock, without having *an equal* prospect of advantage.’ We ought not, therefore, in our complaints against these loans, to lay any blame on those who conducted them: we ought, (as I said before) only to lament, ‘that the nature and principles of the subject had not been investigated, whereby to ascertain the necessary properties of an annuity stock, that would secure to the creditors the advantages on the rise, without saddling the public with

* See Doctor Price’s Additional Observations on Civil Liberty, Part II. section 3.

‘with loss in the redemption.’ It may also be observed, that a time of war, when government is as it were in the power of the lenders, is not a time for making *favourable* bargains on the part of the public, either with respect to future terms of redemption, or any thing else.

Had the nature and principles of the subject been then known, the creditors would have required *higher* terms for the loans during the war, than they would have required for a conversion of the debt after the peace. During the war (had the nature and principles of the subject been understood) the creditors might have obtained $87\frac{1}{2}$ l. of New Four per Cent. Stock, subject to a tender of 4 per cent. per annum for the periodical redemption of the capital *, on their advancing in money towards the new loans, a sum equal to what 100 l. of the Three per Cent. Stock was taken at. Nay, they might have done much more:—they might have brought about a conversion of the Three per Cents. into New Four per Cents. at the same rate; by requiring *twice or three times* $87\frac{1}{2}$ l. of the New Four per Cent. Stock, on their advancing the value of 100 l. of Three per Cents. in money, and giving up therewith 100 l. or 200 l. of the Three per Cent. capital. By these means the creditors would have recovered a part of the losses they had before sustained by the reduction of their interest.

Those who view reductions of interest, and the granting of artificial capitals, in their worst light, will probably observe, that, had the creditors actually made these demands, the public would have been less injured, on the whole,
(taking

* Remember the Note, page 42.

(taking the redemptions of the loans into consideration) than by the granting of the artificial capitals. This observation would indeed be true, in case government were obliged to redeem without making any further agreement with the creditors with respect to the *terms* of redemption: but, it being at the option of government whether to redeem, or not, the conversion might have been effected on *much easier* terms after the peace took place. When government ceased to be, as it were, in the power of the lenders, there is no one but what would have been glad to have given up 100 l. of the Three per Cent. Stock for a *much less* quantity than $87\frac{1}{2}$ l. of such New Four per Cent. Stock*.

31. After the peace took place (in the year 1763) and the expences of the war were arranged, our Public Debt stood as follows, or thereabout, very nearly, *viz.*

	Principal.	Interest or Annuity.
Capitals bearing 3 per cent. (about)	£. 95,500,000	£. 2,865,000
Ditto bearing $3\frac{1}{2}$ per cent. till 1771	1,500,000—	52,500
Ditto bearing $3\frac{1}{2}$ per cent. till 1782, and afterwards 3 per cent.	4,500,000—	157,500
Ditto bearing 4 per cent. till redeemed, (about)	6,985,000—	279,400
Ditto bearing 4 per cent. till 1781, and afterwards 3 per cent.	20,240,000—	809,600
	128,725,000—	4,164,000

* $87\frac{1}{2}$ l. of the New Four per Cent. Stock would be worth

	Principal.	Interest or Annuity.
Sundry temporary annuities for lives and different terms of years, worth about	9,600,000—	468,000
Sundry unfunded debts (bearing different interests) amounting to about	8,300,000—	210,000
Total about * £.	146,625,000—4,842,000	

32. The additions that were made to the Public Debt during the abovementioned war, gave it something of a formidable appearance. Previous to this (although indeed some people appeared to be alarmed), the public annuities were rather matters of general conveniency, for the employment of monies that would otherwise have lain from time to time out of circulation, than matters of actual burthen. The continual demand for the stocks, which had hitherto enabled government to reduce the interest thereon lower and lower, sufficiently evinces the truth of this observation.

33. The great increase of the Public Debts
G During

worth more than 100 l. of the common Three per Cents. in all possible cases whatsoever, as has been already observed in the foregoing 28th article, and its note, page 75.

* Sir John Sinclair (in his History of the Revenue, Part II. page 88) states the principal at 146,682,844 l. Doctor Price (in his Additional Observations on Civil Liberty, page 147) states it at 146,582,844 l. and the interest or annuity at 4,840,821 l. The above round numbers may, therefore, be reckoned near enough the truth.

during the abovementioned war, could not, however, but put an end to all further hopes of diminishing the *interest*, otherwise than by an actual diminution of the *principal*. Indeed, the additional capitals and premiums that were required to be granted for the loans during the war, (in consequence of the depreciations which took place in the value of the stocks, from the want of their bearing a sufficient annual interest) amounting, as was observed above [in Article 30] to *Twelve Millions and an half*, over and above the monies actually received, would have been sufficient, had the nature and principles of the subject been considered, to have convinced the nation, not only that the *interest* had been already reduced too low; but also, that it was become highly necessary, both to *increase the interest*, and likewise to put the *principal* into a regular course of redemption, in order to check the increase of the debt, and the depreciation of the stocks; and thereby to prevent the necessity of granting such exorbitant premiums, in future wars.

This might have been very easily effected by offering to the creditors (or such of them as should think proper to accept the same) a reasonable quantity of new Four per Cent. Stock, subject to a *limited* tender for the periodical redemption of the capital, in exchange for the Three per Cents, and for any of the other annuities of which the debt was composed.

34. It is unnecessary, at this late hour, to inquire very minutely, how much of the New Four per Cent. Stock would have been required to be granted, in order to have effected a conversion of the debt at the time we are speaking of. I have

have already observed [in the foregoing 28th Article] that $87\frac{1}{2}$ l. of New Four per Cent. Stock, subject to a limited tender of four per cent. per annum for the periodical redemption of the capital, would be worth more than 100 l. of the common Three per Cents, in all possible cases whatsoever; although the three per cents. should be *at or above par*: but during the peace we are speaking of (from 1763 to 1775) the price of the three per cents. settled at about 12 per cent. *below par*. It will, therefore, necessarily follow, that a *much less* quantity than $87\frac{1}{2}$ l. of such New Four per Cent. Stock would have been accepted by the creditors in exchange for 100 l. of the Three per Cents. I say a *much less* quantity than $87\frac{1}{2}$ l. of such new four per cent. stock would have been accepted; but *how much less*, would depend on the manner in which the business might or might not be conducted:—If conducted on a principle of strict-economy, the conversion might have been effected at the rate of $81\frac{1}{4}$ l. of New Four per Cents. for 100 l. of the Three per Cents. I must, however, confess, that (although I have as great an aversion to extravagance, either public or private, as any man can have) I should not have been a friend to so *strict* a line of economy, at the time we are speaking of; especially when it is considered how great a reduction the creditors had sustained with respect to the interest or annuity on their former capitals. The public creditors ought (as Sir Nathaniel Gould observes) to be treated as persons who deserve well of the public. At the time we are speaking of, any quantity between $81\frac{1}{4}$ l. and $84\frac{3}{8}$ l. of the abovementioned New Four per Cent. Stock might have been granted in exchange for

100 *l.* of the Three per Cents, without breaking through the bounds of what might be called *rational* (in contradistinction to *rigid*) *economy*: and the creditors would have subscribed to such an offer with the utmost readiness and alacrity *.

This conversion would not only have cut off the whole of the *artificial* debts that had been accumulated during the two preceding wars, amounting to about *Fourteen Millions and an Half* †, but it would likewise have put the debt into such a state of redemption, as would (with proper attention) have secured the regular application of the Sinking Fund to its proper line of service; and prevented that immense *additional* load of *artificial debt* which has since been accumulated.

But, the principles of the subject remaining unexplored, this valuable period of twelve years (from 1763 to 1775) unhappily passed away, without redeeming, even so much as the mere *premiums* and *additional capitals* (or *artificial debts*) that had been granted during the last preceding war, over and above the monies that were actually received for the public service. ‡

35. At.

* $84\frac{3}{8}$ *l.* of the New Four per Cents would have been worth more than 100 *l.* of the common Three per Cents, in all cases, when the interest for money should be either *higher* than $3\frac{1}{5}$ per cent. on the one hand, or *lower* than $2\frac{2}{5}$ per cent. on the other.

† That is to say, about *Two Millions* during the war from 1739 to 1748, and about *Twelve Millions and an Half* during the war from 1755 to 1763.

‡ See Doctor Price's *Additional Observations on Civil Liberty*, pages 104 and 105.

35. At the breaking out of the troubles in America, in the year 1775, which we may consider as the commencement of the late war, our public debt stood as follows, or thereabout very nearly, viz.

	Principal.	Interest or Annuity.
Capitals bearing 3 per cent. about	£. 99,500,000	£. 2,985,000
Ditto bearing $3\frac{1}{2}$ per cent. till 1782, and then 3 per cent.	4,500,000	— 157,500
Ditto bearing 4 per cent. till 1781, and then 3 per cent. about, - -	19,000,000	— 760,000
	123,000,000	— 3,902,500
Sundry temporary annuities for lives and different terms of years, worth about	9,400,000	— 467,500
Sundry unfunded debts (supposed to bear about 2 per cent. interest on the average) amounting to about	3,600,000	— 72,000
Total about *	£. 136,000,000	£. 4,442,000

36. The war from 1775 to 1783 was not only
G 3 attended

* Doctor Price (ibid. page 147) states the principal at 135,943,051*l.* and the interest or annuity at 4,440,821*l.* The above round numbers may therefore be reckoned near enough the truth.

attended with a much greater expence than any of the preceding wars, but the Public Debt became likewise greatly increased by the additional capitals and temporary annuities that were required to be granted by way of premiums (over and above the monies actually received) for the loans, in consequence of the discounts to which the stocks fell, from the want of their bearing a sufficient interest or annuity.

The immense increase of artificial debt (by the *additional* capitals and temporary annuities so granted) over and above the monies actually received for the public service, became even more alarming than the uncommon expences with which the fleets and armies were attended.* I must, however, repeat, that the losses attendant on this method of making the loans, however alarming and

* Doctor Price (in his Statement of the Public Debts in January, 1783, page 5, note a) says, that the monies that had been received for the funded debts created from 1775 to that time was $57\frac{1}{2}$ millions; and that the *additional* capitals and temporary annuities granted, exceeded the monies so received by £. 28,500,000

Near Forty Millions of debt, (composed of Exchequer, Navy, and Ordnance bills, and outstanding demands) remained unfunded: and the discounts to which these debentures fell were so great (see Doctor Price's Statement, page 19) as to produce a further artificial debt of more than

5,000,000

And in the funding of these outstanding debts, in the years 1783, 1784, and 1785, a further addition of artificial debt was created to the amount of about

9,500,000

So that the last war was attended with an increase of debt, which exceeded the monies actually received for the public service by about

£. 43,000,000

and great, cannot in possibility be avoided, but by the use of stocks bearing a higher interest, subject to a *limited* tender for the periodical redemption of the capital; whereby the stock shall have a free and secure capacity for rising in value *above par*, for the advantage of the creditors, without injury to the public with respect to the necessary periodical redemptions. Because, as I have repeatedly observed already, when a man can lay out his money in any stock at a discount, with a prospect of obtaining such or such an advantage from the future rise of the stock, his own interest will not permit him to advance it on any terms but such as shall afford him an *equal* (or a *greater*) prospect of advantage. If, therefore, we would avoid the losses attendant on this method of making the loans, we must get rid of the *cause* from whence they flow; to wit, the *discount* on the stocks: and this can only be done by converting the debt into redeemable stocks, having a capacity for rising in value for the advantage of the creditors, *above par*.

37. The immense losses attendant on the old method of making the loans, by granting additional capitals over and above the money received, were very much complained of, both in and out of parliament. The small redemptional powers of a sinking fund, if applied to stocks bearing a *low* interest, compared with its redemptional powers, when applied to stocks bearing a *high* interest, were likewise mentioned, as additional arguments, against the old methods of funding on low stocks: * and an attempt was accordingly

G 4

made

* The annual revenue or interest that would be redeemed or released in 40 years, by a sinking fund of One Million a year

made in 1781, to raise the loan of that year, (or a part thereof) on a Five per Cent. Stock. The circumstance of *limiting the tender* to which the capital should be periodically liable for its redemption, (whereby alone the interest or annuity appertaining to the creditors could be secured from reduction, and the capital be at the same time redeemable) did not occur:—The lenders naturally suspected, that in case the capital should be redeemable, the interest thereon would be reduced whenever peace should take place: they therefore refused to take the proposed Five per Cent. Stock, unless the interest thereon should be secured from reduction for Fifteen Years, by rendering the capital *irredeemable* during that term: and even on these conditions they would take it only at the rate of 82*l.* cash for 100*l.* of the stock.

The ends proposed to be obtained by the granting of a Five per Cent. Stock, were, *first*, to avoid the granting of great artificial capitals, over and above the monies actually received; and, secondly, to facilitate the future redemption, by giving the sinking fund which might be applied, a *greater power* than it could have on *lower* stocks. But the granting of 100*l.* stock for every 82*l.* received, would by no means accomplish the *first* of the ends proposed; and the rendering of the capital irredeemable for fifteen years, would defeat the advantages of the *second* proposed end.

The

year (or rather 500,000*l.* per half year) applied to the redemption of Stocks at par, would be as follows, viz.

If applied to the redemption of 3 per cent. stocks	£.2,283,072
of 4 per cents	3,875,460
of 5 per cents	6,209,100
of 6 per cents	9,640,844

The difference is, indeed, very great.

The Five per Cent. stock was therefore dropt and the experiment served only to prove the truth of an *axiom*, which might have been seen as clearly *without* an experiment as *with it*,—to wit, ‘ That a time of war, when Government is as it were in the power of the lenders, is not a proper time for making a favourable bargain on the part of the public, with respect to future terms of redemption.’ The best that can be done for the public, in a time of war, when Government is as it were in the power of the lenders, is, to fund on that stock which has already the greatest possession of the market; and to leave the terms of redemption to be *afterwards* agreed on when Government shall become *freed* from the power of the lenders, and be thereby enabled to treat on equal terms. It cannot but strike every man’s own reason, that, while Government shall be as it were in the power of the lenders, so favourable a bargain cannot be made, either with respect to future terms of redemption, or any thing else, as may be made when Government shall cease to be so in their power.

38. It would have been more unfortunate for the public than it now is, if the creditors had demanded such terms for the loans during the late war, as would have *secured* the attention of Government to their redemption, without any *further* agreement.

During the war, the lenders had it in their power, (or rather, they would have had it in their power, had the nature and principles of the subject been then understood) to have obtained any quantity (almost at their own pleasure) less than 80*l.* of New Five per Cent. Stock, subject to a tender of Five per Cent. per annum, for the periodical

radical redemption of the capital (with the privilege likewise of suspending the redemptions on the principles mentioned in the third section of my Third Essay), on their advancing towards the new loans a sum in money, equal to the current value of 100*l.* of Three per Cent. Stock.*—They might likewise have brought about a conversion of a very great part of the debt on the same terms, by demanding *double* or *treble* such quantity of the new Stock, on their advancing towards the new loans the current value of 100*l.* of the three per cent. stock in money, and giving up therewith 100*l.* or 200*l.* of the Three per Cent. Capital. And by this means they might have recovered the interest or annuity which they had formerly lost by the reductions of interest that took place in the reigns of King George the First and Second. Had these demands been made at the first commencement of the troubles (when the three per cent. stocks were above 80*l.*) they would indeed have *bordered* on extravagance, but they would not have been *excessively* extravagant; especially when it is considered that the additional annuity that would have been so annexed to the stocks, would have checked their depreciation. But had these demands been made after the depreciation took place, they would have been extravagant in the highest degree. Extravagant, however, as these demands might have been, it would not have been an easy task to have resisted or counteracted them, had they been proposed with judgment on the
part

* 80*l.* of such New Five per Cent. Stock would be worth more than 100*l.* of the common three per cents, in all possible cases whatsoever; however *high* or however *low* the rate of interest for money might or might not be. See the principles demonstrated in the foregoing third section. See also the tables in the appendix.

part of the lenders, when Government was so much in their power; especially too, as no basis had been previously formed whereon to erect a proper system for counteracting the extravagant degrees of such demands*.

39. Although the attempt for raising the loan of 1781 on a Five per Cent. Stock, had failed, yet, the facility with which a five per cent. stock would be redeemed, compared with a *lower* stock †, determined Government to make another trial after the war was over. And accordingly, in the years 1784 and 1785, a five per cent. stock was proposed for the funding of certain navy and victualling bills, which then remained outstanding. This was effected on terms rather more favourable to the public than those that had been talked of in 1781 ‡: but the circumstance of limiting the tender to which the stock should be periodically liable for its redemption, (whereby *alone* the interest or annuity appertaining to the creditors could be secured from reduction, and the capital be, at the same time, redeemable) did not occur. In order, therefore, to secure the interest or annuity from being reduced, the stock was rendered *irredeemable* until twenty-five millions of the other stocks should be previously redeemed. This rendering of the stock *irredeemable* defeated the advantages

* The creditors might have obtained 70 l. (or more than 70 l.) of such New Five per Cent. Stock in the stead of 100 l. of Three per Cents, at any time during the war, in despite of any thing that could have been done to counteract it. After the peace took place, they would have been (and would still be) glad to accept of much less than 70 l. of such Five per Cents, in exchange for 100 l. of Three per Cents, for a conversion of the debt.

† See the Note, pages 87 and 88.

‡ In 1784 the five per cent. stock was taken at 93 l. and in 1785 at 89½ l. for 100 l. stock.

vantages that had been proposed, of *facilitating* the redemption, and rendered the bargain a very disadvantageous one for the public.

These measures finished (so far as was judged necessary) the arrangement of the debts that had been incurred during the late war. And this done, our public debt (at the end of the year 1785, stood as follows, or thereabout very nearly.

	Principal.	Interest or Annuity.
<i>Viz.</i> —Capitals bearing		
3 per cent. about*	£. 187,650,000—	5,629,500
4 per cent.	32,750,000—	1,310,000
5 per cent. about	17,900,000—	895,000
Sundry temporary annuities for lives and different terms of years; worth (for even numbers) about †	21,700,000—	1,325,500
Amount of the funded debts about	260,000,000—	9,160,000
Sundry unfunded debts (part of which bear interest, and part not) amounting, for even numbers, to about ‡	10,000,000—	340,000
Total about	£. 270,000,000—	9,500,000
		But

* I give these in the nearest round numbers, because the statements I have seen do not *exactly* agree.

† I give this article, to make even numbers, rather *lower* than the general market value of the annuities since the late rise in the prices of the stocks. N. B. 25,000 *l.* of these annuities expire in 1787, and 55,000 *l.* more in 1791.

‡ I have seen no regular statement of the unfunded debts, but

But it is necessary to observe, that the abovementioned interest or annuity of 9,500,000 *l.* is not the whole of the annual expence with which the public debts are actually attended. They are attended with a further expence for management, amounting (for even numbers) to about 120,000 *l.* per annum. The *whole annual expence* attendant on the public debts (funded and unfunded) is, therefore, *at present*, considerably more than the abovementioned 9,500,000 *l.* and, were the whole of the outstanding debts (including the compensations to be made to the American sufferers) to be immediately brought in, I am strongly of opinion, that the whole annual expence attendant on the debts, including *interest and management*,

but the following observations will shew, that the above is quite within the bounds of their reality.

The Act of Parliament, 26 Geo. III. chap. 61, for appropriating the supplies, recites Exchequer Bills then outstanding to the amount of 5,680,000 *l.* It likewise recites new Exchequer Bills and Tallies, issued, and to be issued, partly for discharging the former, and partly for other services, to the amount of 8,100,000 *l.* And the Select Committee, in their report on the public income and expenditure, state the navy debt at 2,537,764 *l.* and mention further demands, which are estimated by the board, to be somewhere between 1,200,000 *l.* and 1,600,000 *l.* If to these we add a reasonable allowance for the ordnance department, and for compensating the losses of the American Loyalists, we shall probably find the amount of the unfunded debts to be nearer *Fifteen Millions* than *Ten*. But, to counterbalance these, there are fundry balances remaining in the hands of Paymasters, &c. which, it is said, are soon expected to be paid in. These may perhaps reduce the outstanding debts to about the sum above stated. Part of the unfunded debts (as I observed above) bear no interest; but the above-mentioned 340,000 *l.* per annum will, I doubt not, be thought quite within bounds, when it is considered that the Select Committee, in their report on the public income and expenditure, estimate the future charge on the Exchequer Bills *alone* at 258,000 *l.* per annum.

nagement, would not be less than about *Nine Millions and three quarters* *. A part of these outstanding expences cannot, however, be brought in, for a considerable time; and a part of the floating expences of the navy department will always be without interest. The outstanding balances due to government will likewise be dropping in, as will also a part of the temporary annuities for lives and for short terms of years; so that, on the whole, I consider the foregoing statement of the debt to be as near the truth as need either be expected or required; although I consider it to be rather *under* the mark than *over* it.

40. Hence, we may sum up the progress of the public debts as follows,—

	Principal.	Interest or Annuity.
<i>Viz.</i> —Public Debts (funded and unfunded) incurred by the long wars of King William and Queen Anne; being the amount of the public debts at the demise of the Queen in 1714; about	£. 54,250,000—	3,352,000
Diminished from the year 1714, to the breaking out of the Spanish war in 1739, about	—	7,750,000—1,414,000
		Amount

* The Select Committee, in their report on the public income and expenditure, state the annual expences (including *interest* and *management*) of the Funded Debts and Exchequer Bills at 9,533,769 *l.* exclusive of what may be required for the other parts of the unfunded debt, when brought in.

	Principal.	Interest or Annuity.
Amount of the public debts at the commencement of the war in 1739, about £.	46,500,000—	1,938,000
Increased by the war from 1739 to 1748, about	31,750,000—	1,116,200
Amount of the debt at the close of the war in 1748, about	78,250,000—	3,054,200
Diminished by the peace from 1748 to 1755 (including the reduction of interest then agreed on, to take place in 1757, about	3,250,000—	681,200
Amount of the debt at the commencement of the war in 1755, about	75,000,000—	2,373,000
Increased by the war from 1755 to 1763, about —	71,625,000—	2,469,000
Amount of the debt at the end of the war, after funding the outstanding debts, about	146,625,000—	4,842,000
Diminished by the peace from 1763 to 1775, about	10,625,000—	400,000

	Principal.	Interest of Annuity.
Amount of the debt at the breaking out of the troubles in America in 1775, about	136,000,000	4,442,000
Increased by the war from 1775 to 1783, about	£. 134,000,000	£. 5,058,000
Amount of the debt (funded and unfunded) when the diminution thereof commenced in 1786, about	£. 270,000,000	9,500,000

41. So immense a debt as 270 millions of capital, bearing an interest or annuity of $9\frac{1}{2}$ millions, cannot but be a little alarming; especially too, when we consider the rapidity of the increase of the debt in time of war, compared with the redemptions in time of peace. It must, however, be observed, that the *capital* is merely a *nominal* matter. A very large part of the amount of the *nominal capital* has never been received; nor has any the most distant promise been ever given, with respect to its being paid. It has been already observed that the increase which was made to the nominal capital of the debt during the last war, exceeded the monies and supplies that were actually received for the public service by 43 millions, or thereabout; and if we go back to the commencement of the debt, we shall find, that more than 60 millions of the *nominal*

nominal debt is of this *artificial* nature*. But, it must be remembered, that the creditors have no demand on the public for any part of the nominal capital; their demand extends only to the annuity or interest: so that the agreement between the public and the creditors is simply this: to wit,—that ‘Government will continue ‘to pay the *interest* or *annuity*, until a redemption thereof be made, on such terms as shall be ‘hereafter agreed on.’ And hence the amount of the losses with which the *artificial* debt will be attended, will depend, principally, on the *manner* of putting the debt into a course of redemption.

42. The act of Parliament of the last sessions, for appropriating a sinking fund to the purchasing up of the stocks in the market, has a natural tendency (if continued long in force) to render the terms of redemption much more unfavourable to the public, than would otherwise have been thought of. The purchasing up of the stocks in the market, has, in the first instance, a natural tendency to raise their price; and thereby to encourage people to purchase them on speculation, for the purpose of gaining by such rise, which naturally tends to raise them still higher: But, when a war becomes apprehended, the speculative adventurers, who had before flocked to market as *purchasers*, naturally crowd to market as *sellers*, and thereby depress the prices of the stocks *lower*
H than

* During the long wars of King William and Queen Anne Artificial Debts were incurred to the amount of about

	£. 10,000,000
During the war from 1739 to 1748, about	2,000,000
from 1755 to 1763, about	12,500,000
from 1775 to 1783, about	43,000,000

Total of Artificial Debt, about £. 67,500,000

than they otherwise would be, in the same manner as the speculative purchasings carry them *higher* than they otherwise would be. It is perfectly evident to every body, that in the present state of the debt, the *difference* between the prices at which the stocks shall be redeemed, or purchased up, in time of peace, and the prices at which they shall be granted in time of war, whatever that *difference* shall be, must be a *loss* to the public: And, as the system of redemption prescribed by the act of parliament tends to render this *difference* in their prices greater than it otherwise would be; so, of course, it tends to increase those losses, and to induce the creditors to demand higher terms for the redemption than would otherwise have been thought of.

43. When we consider the immense additions made to the debt in time of war; and the immense *difference* between the prices of the stocks in time of war, and their prices in time of peace; we cannot but be convinced of the inefficacy of attempting to check the future increase of the debt by purchasing up in the market, in time of peace, the stocks that shall have been granted for the loans in time of war. We cannot, indeed, on such a plan of purchasing, expect to redeem in time of peace, any thing near so much as the *mere artificial debts* that will be required to be granted (over and above the monies actually received) in time of war*.

We

* I have already observed that the *artificial debts* created during the last war, amount to forty three millions over and above the monies actually received. Can we expect, on the present plan, to purchase up any thing near that quantity during the peace? Neither can we expect, on the same plan, to do better in any future peace: for, while the debt remains in its present form, the *discount*, on the stocks in time of war, and therewith the *artificial debts*, must become greater and greater.

We can, therefore, by no means, expect that the lenders, in the case of a new war, will rest themselves contented with a supposition that the present act of parliament (which may at any time be repealed) should actually be continued in force. We may, on the contrary, very naturally expect that the lenders will demand such terms for the new loans as shall *secure* to themselves the same profits, whether the act of parliament be or be not repealed, as the act itself would produce (by the future rise of the stocks), in case it should be continued in force. This they may obtain in any and every possible case whatever, by demanding (according to the nature of the case) some one or other of the following quantities of new stock, on their advancing towards the new loan, a sum *in money*, equal to the current value (for the time being) of 100*l.* of three per cent. stock; viz.

Between $\pounds.81\frac{1}{4}$ and $\pounds.87\frac{1}{2}$ of *Four per Cent. Stock*, subject to a tender of four per cent. per annum for its redemption.

Between..... $80\frac{5}{4}$ and $85\frac{5}{7}$ of ditto, subject to a tender of three per cent. per annum.

Between..... $79\frac{1}{6}$ and $83\frac{1}{3}$ of ditto, subject to a tender of two per cent. per annum.

Between.....70 and80 of *Five per Cent. Stock*, subject to a tender of five per cent. per annum.

- Between $\text{£.}68\frac{8}{9}$ and $\text{£.}77\frac{7}{9}$ of *Five per Cent. Stock*,
subject to a tender of
four per cent. per an-
num.
- Between $\dots 67\frac{1}{2}$ and $\dots 75$ of ditto, subject to a
tender of three per
cent. per annum.
- Between $\dots 66\frac{2}{3}$ and $\dots 73\frac{1}{3}$ of ditto, subject to a
tender of $2\frac{1}{2}$ per cent.
per annum.
- Between $\dots 62\frac{1}{2}$ and $\dots 75$ of *Six per Cent. Stock*,
subject to a tender of
six per cent. per an-
num.
- Between $\dots 61\frac{4}{11}$ and $\dots 72\frac{8}{11}$ of ditto, subject to a
tender of five per cent.
per annum.
- Between $\dots 60$ and $\dots 70$ of ditto, subject to a
tender of four per
cent. per annum.
- Between $\dots 58\frac{1}{3}$ and $\dots 66\frac{2}{3}$ of ditto, subject to a
tender of three per
cent. per annum.
- Between $\dots 53\frac{1}{8}$ and $\dots 68\frac{3}{4}$ of *Eight per Cent.*
Stock, subject to a ten-
der of eight per cent.
per annum.
- Between $\dots 47\frac{1}{12}$ and $\dots 58\frac{1}{3}$ of ditto, subject to a
tender of four per
cent. per annum.
- Between $\dots 47\frac{1}{2}$ and $\dots 65$ of *Ten per Cent. Stock*,
subject to a tender of
ten per cent. per an-
num.

Between

Between $\pounds. 41\frac{2}{3}$ and $\pounds. 53\frac{1}{3}$ of *Ten per Cent. Stock*,
 subject to a tender of
 five per cent. per an-
 num.*

44. The creditors, as I have already observed, have it likewise in their power, in time of war, to obtain the conversion of a very great part of the debt, on the same terms as those above-mentioned; by demanding *double* or *treble* such quantity of New Stock on their advancing towards the new loans the value of 100*l.* of three per cent. stock in *money*, and giving up therewith 100*l.* or 200*l.* of three per cent. capital.

45. In a time of peace, the creditors would gladly accept of a *less* quantity of new stock for the conversion of the debt, than they would be able to obtain afterwards in the case of a new war: because, a *smaller* profit in hand, is better than a *greater* profit at a future day. It would, for instance, be better for the creditors to accept of 67*l.* or 68*l.* of new Five per cent. stock, in exchange for 100*l.* of the three per cents now, than to wait ten or a dozen years, till a new war should again put the power in their hands, and then obtain 70*l.* or 71*l.* of new five per cents, in exchange for 100*l.* of three per cents; because, the additional annuity, in the intermediate time, would amount to more than the difference: And, what is still of much more consequence, the additional annuity would check that depreciation of the value of their capitals, which they must unavoidably suffer, in the case of a new war, if the debt should remain till then unconverted.

H 3

46. At

* The reader may easily compute the preference between *one stock* and *another*, in any given case, from the principles demonstrated in the foregoing third section; or he may ascertain the preference between Four, Five, and Six per cent. Stocks, in any given case, from the tables in the Appendix.

46. At this time, a five per cent. stock, subject to a tender of Five per cent. per annum, for the periodical redemption of the capital, would be the most proper stock to convert the debt into; and the quantity of such five per cent. stock that would be required to be granted in exchange for 100*l.* of the present three per cents, would be somewhere between the extremes of 65*l.* and 70*l.* but whereabouts, between these extremes, would depend on the *manner* in which the business might be conducted.* Some people may perhaps doubt whether the creditors, since the late rise in the prices of the stocks, would subscribe to the conversion at the rate of 70*l.* (or less than 70*l.*) of such new Five per Cent. stock for 100*l.* of the three per cents; these doubts, however, would vanish in a moment.

The late rise in the prices of the stocks is merely of a *temporary* nature: it has been produced by mere temporary purchases, and can continue no longer than those temporary purchases shall continue. If government should direct the sinking-fund to be applied to the discharge of the unfunded debts, instead of purchasing up the stocks, there would be sufficient employment for the sinking

* The debt might, at this time, be converted into a Four per Cent. Stock, subject to a tender of Four per Cent. per annum for its redemption, at somewhere between 76½*l.* and 81¼*l.* of four per cents, for 100*l.* of three per cents. Such four per cent. stock might perhaps (with great exertions for its redemption) be made to answer the purpose of preventing a public bankruptcy, provided we could be sure of a continuance of peace for twenty years, or more; but, as we can have no reason to expect such a continuance of peace, there would be too much danger that a four per cent. stock would prove ineffectual; and in that case the expence of the conversion would be thrown away. A five per cent. stock is, therefore, the lowest that can with propriety be adopted.

ing fund for many years to come; and the stock would then fall to what we may call their natural or proper value: and in proportion as this proper value shall be less than 80*l.* in that proportion the creditors will accept of less than 70*l.* of the above-mentioned new five per cents, in exchange for 100*l.* of the three per cents: For, while 100*l.* of the three per cents shall be worth less than 80*l.* $\text{£}70$ of the new Five per cents will be worth more than 100*l.* of three per cents.* There is no man, I believe, who entertains any the most distant hope of our three per cents being actually *supported* on the general average, so high as 75*l.* (or even so high as 70*l.*) in case the sinking fund should be withdrawn: and while they shall be worth less than 75*l.* $\text{£}67\frac{1}{2}$ of the abovementioned new five per cents, will be worth more than 100*l.* of the three per cents. The creditors (such of them at least as shall hereafter be subscribers to new loans) may indeed, in the case of a new war, obtain 70*l.* or rather more than 70*l.* of such new five per cent. stock in exchange for 100*l.* of the three per cents, by making it a part of the conditions of the loans; but it would be more advantageous for them to accept of $67\frac{1}{2}$ *now*, (supposing the business to be properly conducted) than to obtain 70*l.* ten years hence. The additional interest in the intermediate time, amounts to more than the difference.

47. Were the conversion of the debt to be effected at the rate of $67\frac{1}{2}$ of new five per cents, for 100*l.* of three per cents, the advantages to the creditors would be these,.....viz.....They would obtain an additional annuity or interest of *seven shillings and six-pence* on every three pounds (which is *two shillings and six-pence* on every pound) and
H 4 their

* See the principles demonstrated in the foregoing third section. See also the tables in the Appendix.

their stock would not only have a free and secure capacity for rising in value, but it would likewise be *more valuable* than the stock by them given up, whenever the three per cents shall be under 75*l*. And we may venture to say, that they would be very generally (if not universally) under 75*l*. provided the market was left to find its own level, without being interrupted by making *temporary purchases* with the sinking fund; purchases which can only increase that unhappy spirit of gambling, which prevails in Exchange Alley; and thereby add to the public loss, not only with respect to the redemption of the old stocks, but likewise with respect to the terms of obtaining new loans, when new loans shall become necessary.*

The advantages which the public would derive from such conversion would be these,.....viz.....*First*,.....The artificial capital, which has been the grand cause of all our financial calamities, (and which must unavoidably increase those calamities more and more, so long as it shall continue to exist) will be entirely done away;.....*Secondly*,.....The sinking fund will be rendered secure in its proper line of service, as well during war as peace, by being enabled to redeem a *greater* quantity of stock or of annuity than will be required to be granted for obtaining an equal sum of money in the market; and, this constant application of the sinking fund to the redemption, will prevent the excessive accumulation of the debt in future; and preserve the value of the stocks from those depreciations to which they have hitherto been subject.

It may likewise be observed, that (besides cutting off the *artificial* debts, as mentioned above) the

* See the *first* section of this Essay, and the forty-second article of this *fourth* section.

the additional annuity or interest which is thus granted for the conversion, likewise operates, *in effect*, as a sinking fund, towards the redemption of the *new* capital.

For example,—The same causes that shall render it necessary, in a *time of peace*; to grant $67\frac{1}{2}\%$ of the abovementioned five per cent. stock, for 100*l.* of three per cents; those same causes will render 100*l.* of five per cent. stock, worth about 111*l.* *cash*, in the market, after the conversion is effected.* Government, therefore, even if there shall be no further surplus revenue or sinking fund than is thus required to be granted for the conversion, may raise, in the market, at the rate of about 110*l.* *cash*, for 100*l.* of the stock, the money required for the periodical tender; so that out of the *seven shillings and six-pence* additional annuity granted for the conversion, *six shillings* or thereabout operates in effect as a sinking fund towards the redemption of the principal. And, universally, if the business be properly conducted in a time of peace, about *four-fifth parts* of the additional annuity that shall be required to be granted for converting Three per Cents into Five per Cents; or, about *three-fourth parts* of the additional annuity that shall be required to be granted for converting Three per Cents into Six per cents; will thus operate *in effect* as a sinking fund, towards the redemption of the principal:† And these respective *four fifth parts*, or *three-fourth parts* of the said additional annuity will be much more efficacious in the redemption of their respective Five per Cent. or Six per Cent. Stocks, than

* See the tables in the Appendix.

† See the Second Essay, pages 26 and 27.

than the whole of the said additional annuity would be, in the redemption of Three per Cents.*

48. It is unnecessary to say any thing further respecting the *practicability*, the *propriety*, and the *necessity* of a conversion of the debt into redeemable stocks, bearing a higher interest than that of the market, subject to a *limited tender* for their redemption; whereby *alone* the value of the stock or capital can be supported from depreciation, and the interest or annuity secured from reduction. The observations that have been made in the course of this section, sufficiently evince:—*First*,
 ‘ That had the nature and principles of the subject
 ‘ been investigated, the creditors would always
 ‘ have *demand*ed this kind of stock, when they advanced their money: by this means they would
 ‘ have secured themselves from the losses they sustained by the reductions of their interest or annuity which took place in the reigns of King
 ‘ George the First, and King George the Second;
 ‘ and the public would likewise have been free
 ‘ from that immense load of artificial debt which
 ‘ has since been accumulated:’

Secondly.—‘ That the *artificial debts* which have
 ‘ been so much complained of, are inseparable
 ‘ consequences of the *discount* on the stocks, which
 ‘ proceeds from the want of their bearing a sufficient interest or annuity: and, that the further
 ‘ and further increase of these artificial debts (until at length a public bankruptcy shall ensue)
 ‘ cannot *in possibility* be avoided, but by removing the *cause* from whence they flow: to wit, by
 ‘ increasing the *interest* or *annuity* on the stocks,
 ‘ and

* See the Third Essay, page 26, article 12, and its note.

‘ and thereby cutting off the *discount**; and by
 ‘ *limiting the tender* to which the new stock shall
 ‘ be periodically liable for its redemption, whereby
 ‘ to give it a free and secure capacity for rising in
 ‘ value *above par* for the advantage of the credi-
 ‘ tor, without injury to the public with respect
 ‘ to the periodical redemptions necessary to be
 ‘ made:—’

‘ *Lastly.*—‘ That the necessary *addition* to the
 ‘ *interest or annuity* on the stocks may be made, and
 ‘ the *discount* cut off, by a conversion of the debt,
 ‘ at any time whatever, (while the Public Credit
 ‘ and resources shall remain unexhausted,) whether
 ‘ during *peace* or *war*: with this difference,—*to*
 ‘ *wit*,—that, in a time of peace, procrastination
 ‘ will be (at the very best) a waste of time; and,
 ‘ in a time of war, the *discount on the stocks*, and the
 ‘ *additional interest or annuity* that will be required
 ‘ to be granted for cutting off that discount, will
 ‘ be *greater* than in a time of peace.’

It must also be remembered that in a time of war (should the debt remain unconverted), the great stock-holders, who subscribe largely towards the new loans, will have it in their power to bring about a conversion of a very great part of the debt, on extravagant terms, by making it a part
 of

* It is, however, a matter of much consolation, to observe, that, if the business be undertaken in time, the *additional annuity or interest*, that will be required for this purpose, will be *less* than the annuity or interest heretofore *saved* to the public by the *reductions* of the interest. The *savings* to the public heretofore made by the several *reductions* of the interest, amount to about 1,266,000*l.* per annum: [See Sir John Sinclair's Hist. of the Revenue, part 2, page 114.] The interest now required *to be added*, in order to cut off the *discounts and artificial debts* that have *hitherto* arisen in consequence of those reductions, will be less than *three-fourth parts* of those savings.

of the conditions of the new loans. The only thing that could have prevented their doing this during the last and former wars was this: The nature and principles of the subject not being investigated, they did not see the method of securing a *high interest* from being reduced: but, the method of securing the interest from reduction, being pointed out, it cannot be doubted but they will hereafter require a *high interest*, which shall be periodically demandable by them, in the stead of a *depreciated capital*, for which they can have no demand; a capital, which must, in its nature, (as experience has already evinced,) fall *lower and lower* at every succeeding war, until it finally falls to nought; whereby both *principal* and *interest* must become (for a time at least) swallowed up in bankruptcy.

I shall therefore conclude by observing, that (unless the Public Credit and resources of the nation should fall, never to rise again, a thing which cannot be expected, even in the direful case of a public bankruptcy itself), a conversion of the debt, into stocks bearing a *higher interest* than that of the market, subject to a *limited tender* for their redemption, must sooner or later take place; however much; or however little, the *labourer*, who has been at the pains of investigating the nature and principles of the subject, may or may not *himself* be benefited by his labours. If the conversion be not proposed in a time of peace, when government, (by having it at its option whether to redeem or not) has it in its power to command reasonable and equitable terms; it will naturally be demanded (in greater or lesser proportions) by the lenders, in a time of war, as a part of the conditions of the new loans; and, Government being then as it were in the *power* of the lenders,

lenders, the terms demanded will, of course, be more unfavourable to the public.

It cannot but be evident to every contemplative mind, that, in a time of war, the terms required by the lenders must naturally be more unfavourable for the public than in a time of peace: It may, however, be observed, that whether the conversion be made in a time of war, or in a time of peace, the terms that will *actually be required* will be *higher* or *lower* according to the *manner* in which the business may be conducted; whereby the operation of certain *collateral causes* may be turned into *advantage* on the one hand, or *disadvantage* on the other. But as this part of the subject can be of no material consequence to the generality of the readers, I shall not trouble them with it.

APPENDIX.



A P P E N D I X.

CONTAINING

T A B L E S

Of the comparative Values of redeemable

A N N U I T Y S T O C K S,

Bearing different Rates of Interest, subject to
different Tenders, for the Periodical
Redemption of the Capital.

WITH THEIR EXPLANATION AND USE.

TABLE of Four per Cent Stocks, subject to

Given val. of 100l. of 3 per cent. stocks redeemable, at pleasure.	Corresponding Value of 100l. of Four per Cent. Stock,					
	Tender 4 per cent. per annum.			Tender 3 per cent. per annum.		
	Computed value.	Ratio of the correction.	Corrected value.	Computed value.	Ratio.	Corrected value.
£.	£.		£.	£.		£.
100	114.29	1.0250	117.15	116.67	1.0293	120.09
99	113.79	1.0233	116.44	116.08	1.0275	119.28
98	113.29	1.0216	115.74	115.49	1.0257	118.46
97	112.79	1.0199	115.03	114.89	1.0239	117.64
96	112.28	1.0182	114.32	114.29	1.0221	116.81
95	111.76	1.0165	113.61	113.68	1.0203	115.98
94	111.24	1.0148	112.89	113.06	1.0185	115.15
93	110.71	1.0131	112.17	112.44	1.0167	114.31
92	110.18	1.0114	111.44	111.81	1.0149	113.47
91	109.64	1.0097	110.70	111.17	1.0131	112.63
90	109.09	1.0080	109.96	110.53	1.0113	111.78
89	108.54	1.0063	109.22	109.88	1.0095	110.92
88	107.98	1.0046	108.48	109.22	1.0077	110.06
87	107.41	1.0029	107.73	108.56	1.0059	109.20
86	106.83	1.0012	106.97	107.89	1.0041	108.33
85	106.25	0.9995	106.20	107.21	1.0023	107.45
84	105.66	0.9978	105.43	106.52	1.0005	106.57
83	105.06	0.9961	104.65	105.83	0.9987	105.69
82	104.46	0.9944	103.87	105.13	0.9969	104.80
81	103.85	0.9927	103.09	104.42	0.9951	103.91
80	103.23	0.9910	102.30	103.70	0.9934	103.02
79	102.60	0.9893	101.50	102.98	0.9917	102.13
78	101.96	0.9876	100.70	102.25	0.9900	101.23
77	101.32	0.9859	99.89	101.51	0.9883	100.32
76	100.66	0.9842	99.07	100.76	0.9866	99.41
75	100.00	0.9825	98.25	100.00	0.9849	98.49

different Tenders for their Periodical Redemption.

according to the Tender to which it shall be subject.						
Tender 2 per cent. per annum.			Tender 1 per cent. per annum.			Given val. of 100l. of 3 per cent. stocks, redeemable at pleasure.
Computed value.	Ratio.	Corrected value.	Computed value.	Ratio.	Corrected value.	
£.		£.	£.		£.	£.
120.00	1.0354	124.25	125.00	1.0446	130.58	100
119.28	1.0335	123.28	124.06	1.0425	129.34	99
118.55	1.0316	122.30	123.12	1.0404	128.09	98
117.81	1.0297	121.31	122.17	1.0383	126.85	97
117.07	1.0278	120.32	121.21	1.0362	125.60	96
116.32	1.0259	119.33	120.25	1.0341	124.36	95
115.57	1.0240	118.34	119.29	1.0320	123.11	94
114.81	1.0221	117.35	118.32	1.0299	121.86	93
114.05	1.0202	116.35	117.35	1.0278	120.61	92
113.28	1.0183	115.35	116.37	1.0257	119.36	91
112.50	1.0164	114.34	115.38	1.0236	118.10	90
111.71	1.0145	113.33	114.39	1.0215	116.85	89
110.92	1.0126	112.32	113.40	1.0194	115.60	88
110.13	1.0107	111.30	112.40	1.0173	114.35	87
109.32	1.0088	110.28	111.40	1.0152	113.09	86
108.51	1.0069	109.26	110.39	1.0131	111.84	85
107.69	1.0050	108.23	109.38	1.0110	110.58	84
106.87	1.0031	107.20	108.36	1.0089	109.32	83
106.03	1.0012	106.16	107.33	1.0068	108.06	82
105.19	0.9993	105.12	106.30	1.0048	106.81	81
104.35	0.9974	104.08	105.26	1.0028	105.55	80
103.49	0.9955	103.03	104.22	1.0008	104.30	79
102.63	0.9936	101.98	103.17	0.9988	103.04	78
101.76	0.9918	100.93	102.12	0.9968	101.79	77
100.88	0.9900	99.87	101.06	0.9948	100.53	76
100.00	0.9882	98.82	100.00	0.9928	99.28	75

TABLE of Five per Cent. Stocks, subject to

Given value of 100l. 3 per cent. stock, redeemable at pleasure.	Corresponding Value of 100l. of Five per Cent. Stock, according								
	Tender 5 per cent. per an.			Tender 4 per cent. per an.			Tender 3 per cent. per an.		
	Com- puted value.	Ratio of the correc.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.
£.	£.		£.	£.		£.	£.		£.
100	125.00	1.0250	128.12	128.57	1.0286	132.25	133.33	1.0336	137.81
99	124.53	1.0239	127.50	128.02	1.0274	131.53	132.66	1.0324	136.96
98	124.05	1.0228	126.88	127.46	1.0262	130.80	131.99	1.0312	136.10
97	123.57	1.0217	126.25	126.89	1.0251	130.08	131.30	1.0300	135.24
96	123.08	1.0206	125.62	126.32	1.0240	129.35	130.61	1.0288	134.37
95	122.58	1.0195	124.98	125.74	1.0229	128.62	129.91	1.0276	133.50
94	122.08	1.0184	124.33	125.15	1.0218	127.88	129.21	1.0264	132.62
93	121.57	1.0173	123.67	124.55	1.0207	127.13	128.50	1.0252	131.74
92	121.05	1.0162	123.01	123.95	1.0196	126.38	127.78	1.0240	130.85
91	120.53	1.0151	122.35	123.34	1.0185	125.63	127.05	1.0228	129.95
90	120.00	1.0140	121.68	122.73	1.0174	124.87	126.32	1.0216	129.05
89	119.46	1.0129	121.00	122.10	1.0163	124.10	125.57	1.0204	128.14
88	118.92	1.0118	120.32	121.47	1.0152	123.32	124.82	1.0192	127.22
87	118.37	1.0107	119.63	120.83	1.0141	122.54	124.06	1.0180	126.30
86	117.81	1.0096	118.94	120.19	1.0130	121.75	123.30	1.0168	125.37
85	117.24	1.0085	118.24	119.53	1.0119	120.95	122.52	1.0156	124.43
84	116.66	1.0074	117.53	118.87	1.0108	120.15	121.74	1.0144	123.49
83	116.08	1.0063	116.81	118.20	1.0097	119.34	120.95	1.0132	122.54
82	115.49	1.0052	116.09	117.52	1.0086	118.53	120.15	1.0120	121.59
81	114.89	1.0041	115.36	116.83	1.0075	117.71	119.34	1.0108	120.63
80	114.29	1.0030	114.63	116.13	1.0064	116.88	118.52	1.0096	119.66
79	113.67	1.0019	113.88	115.42	1.0053	116.04	117.69	1.0084	118.68
78	113.04	1.0008	113.13	114.71	1.0042	115.19	116.85	1.0072	117.69
77	112.41	0.9997	112.37	113.98	1.0031	114.33	116.01	1.0060	116.70
76	111.76	0.9986	111.60	113.24	1.0020	113.47	115.15	1.0048	115.70
75	111.11	0.9975	110.83	112.50	1.0009	112.60	114.29	1.0036	114.69
74	110.45	0.9965	110.06	111.74	0.9998	111.72	113.41	1.0024	113.68
73	109.77	0.9955	109.28	110.98	0.9987	110.83	112.52	1.0012	112.66
72	109.09	0.9945	108.49	110.20	0.9976	109.93	111.63	1.0000	111.63
71	108.40	0.9935	107.69	109.42	0.9965	109.03	110.72	0.9989	110.60
70	107.69	0.9925	106.88	108.62	0.9954	108.12	109.80	0.9978	109.56
69	106.98	0.9915	106.06	107.81	0.9943	107.20	108.88	0.9967	108.51
68	106.25	0.9905	105.24	106.99	0.9932	106.27	107.94	0.9956	107.46
67	105.51	0.9895	104.40	106.16	0.9921	105.32	106.99	0.9945	106.40
66	104.76	0.9885	103.55	105.32	0.9910	104.37	106.03	0.9934	105.33
65	104.00	0.9875	102.70	104.46	0.9899	103.41	105.05	0.9923	104.25
64	103.23	0.9865	101.84	103.60	0.9888	102.44	104.07	0.9912	103.16
63	102.44	0.9855	100.96	102.72	0.9877	101.45	103.07	0.9901	102.05
62	101.64	0.9845	100.06	101.82	0.9866	100.45	102.06	0.9890	100.94
61	100.83	0.9835	99.16	100.92	0.9855	99.44	101.04	0.9879	99.81
60	100.00	0.9825	98.25	100.00	0.9844	98.44	100.00	0.9868	98.68

different Tenders for their Periodical Redemption.

to the Tender to which it shall be subject for its Redemption.										Given value of 100l. of 3 perct. stock, redeemable at pleasure.
Tender 2 perct. peran.			Tender 2 perct. peran.			Tender 1 perct. peran.				
Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.		
£.		£.	£.		£.	£.		£.	£.	
136.36	1.0367	141.37	140.00	1.0406	145.68	150.00	1.0512	157.68	100	
135.62	1.0354	140.42	139.16	1.0393	144.62	148.87	1.0497	156.27	99	
134.86	1.0341	139.46	138.31	1.0380	143.56	147.74	1.0482	154.86	98	
134.10	1.0328	138.50	137.45	1.0367	142.49	146.60	1.0467	153.45	97	
133.33	1.0315	137.53	136.59	1.0354	141.42	145.45	1.0452	152.03	96	
132.56	1.0302	136.57	135.71	1.0341	140.34	144.30	1.0437	150.61	95	
131.78	1.0290	135.60	134.84	1.0328	139.26	143.15	1.0422	149.19	94	
130.99	1.0278	134.63	133.95	1.0315	138.17	141.99	1.0407	147.77	93	
130.19	1.0266	133.65	133.06	1.0302	137.08	140.82	1.0392	146.34	92	
129.38	1.0254	132.67	132.16	1.0289	135.48	139.64	1.0377	144.91	91	
128.57	1.0242	131.68	131.25	1.0276	134.87	138.46	1.0362	143.47	90	
127.75	1.0230	130.69	130.33	1.0263	133.76	137.27	1.0347	142.03	89	
126.92	1.0218	129.69	129.41	1.0250	132.64	136.08	1.0332	140.60	88	
126.09	1.0206	128.68	128.48	1.0237	131.52	134.88	1.0318	139.17	87	
125.24	1.0194	127.67	127.54	1.0224	130.40	133.68	1.0304	137.74	86	
124.39	1.0182	126.65	126.60	1.0211	129.27	132.47	1.0290	136.31	85	
123.53	1.0170	125.63	125.64	1.0198	128.13	131.25	1.0276	134.87	84	
122.66	1.0158	124.60	124.68	1.0185	126.99	130.03	1.0262	133.43	83	
121.78	1.0146	123.56	123.71	1.0172	125.84	128.80	1.0248	131.99	82	
120.90	1.0134	122.51	122.73	1.0159	124.68	127.56	1.0234	130.55	81	
120.00	1.0122	121.46	121.74	1.0146	123.52	126.32	1.0220	129.10	80	
119.10	1.0110	120.40	120.74	1.0133	122.35	125.07	1.0206	127.65	79	
118.18	1.0098	119.34	119.74	1.0120	121.18	123.81	1.0192	126.19	78	
117.26	1.0086	118.27	118.72	1.0107	120.00	122.55	1.0178	124.73	77	
116.33	1.0074	117.19	117.70	1.0094	118.81	121.28	1.0164	123.27	76	
115.38	1.0062	116.10	116.67	1.0081	117.61	120.00	1.0150	121.80	75	
114.43	1.0050	115.00	115.62	1.0068	116.41	118.72	1.0136	120.33	74	
113.47	1.0038	113.90	114.57	1.0055	115.20	117.43	1.0122	118.86	73	
112.50	1.0026	112.79	113.51	1.0042	113.99	116.13	1.0108	117.38	72	
111.52	1.0014	111.67	112.44	1.0030	112.78	114.82	1.0094	115.90	71	
110.53	1.0002	110.55	111.36	1.0018	111.56	113.51	1.0080	114.42	70	
109.52	0.9990	109.41	110.27	1.0006	110.33	112.19	1.0066	112.94	69	
108.51	0.9978	108.27	109.17	0.9994	109.10	110.87	1.0052	111.45	68	
107.49	0.9966	107.12	108.06	0.9982	107.86	109.54	1.0038	109.96	67	
106.45	0.9954	105.96	106.94	0.9970	106.62	108.20	1.0024	108.46	66	
105.40	0.9942	104.79	105.81	0.9958	105.37	106.85	1.0010	106.96	65	
104.35	0.9930	103.62	104.67	0.9946	104.11	105.50	0.9996	105.46	64	
103.28	0.9918	102.43	103.52	0.9934	102.84	104.13	0.9982	103.95	63	
102.20	0.9906	101.23	102.36	0.9922	101.56	102.76	0.9968	102.44	62	
101.10	0.9894	100.03	101.18	0.9910	100.27	101.38	0.9954	100.92	61	
100.00	0.9882	98.82	100.00	0.9898	98.98	100.00	0.9940	99.40	60	

TABLE of Six per Cent. Stocks, subject to

Given val. of 100l. of 3 p. cent. stock, redeemable at pleasure.	Corresponding value of 100l. of six per cent. stock, according								
	Tender 6 per cent. per ann.			Tender 5 per cent. per ann.			Tender 4 per cent. per ann.		
	Com- puted value.	Ratio of the cor- rection.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.
	£.		£.	£.		£.	£.		£.
100	133.33	1.0250	136.66	137.50	1.0282	141.38	142.86	1.0323	147.48
99	132.88	1.0241	136.08	136.98	1.0273	140.72	142.24	1.0313	146.70
98	132.43	1.0232	135.50	136.46	1.0264	140.06	141.62	1.0303	145.91
97	131.97	1.0223	134.91	135.92	1.0255	139.39	140.99	1.0293	145.12
96	131.51	1.0214	134.32	135.38	1.0246	138.71	140.35	1.0283	144.32
95	131.03	1.0205	133.72	134.84	1.0237	138.03	139.71	1.0273	143.52
94	130.55	1.0196	133.11	134.29	1.0228	137.35	139.05	1.0263	142.71
93	130.07	1.0187	132.50	133.73	1.0219	136.66	138.39	1.0253	141.89
92	129.58	1.0178	131.88	133.16	1.0210	135.96	137.72	1.0243	141.07
91	129.08	1.0169	131.26	132.58	1.0201	135.25	137.05	1.0233	140.24
90	128.57	1.0160	130.63	132.00	1.0192	134.53	136.36	1.0223	139.40
89	128.06	1.0151	129.99	131.41	1.0183	133.81	135.67	1.0213	138.56
88	127.54	1.0142	129.35	130.81	1.0174	133.08	134.97	1.0203	137.71
87	127.01	1.0133	128.70	130.20	1.0165	132.35	134.26	1.0193	136.85
86	126.47	1.0124	128.04	129.59	1.0156	131.61	133.54	1.0183	135.99
85	125.92	1.0115	127.37	128.97	1.0147	130.86	132.81	1.0174	135.13
84	125.37	1.0106	126.70	128.33	1.0138	130.10	132.08	1.0165	134.26
83	124.81	1.0097	126.02	127.69	1.0129	129.33	131.33	1.0156	133.38
82	124.24	1.0088	125.33	127.04	1.0120	128.56	130.57	1.0147	132.49
81	123.66	1.0079	124.64	126.38	1.0111	127.78	129.81	1.0138	131.59
80	123.08	1.0070	123.94	125.71	1.0102	126.99	129.03	1.0129	130.69
79	122.48	1.0061	123.23	125.04	1.0093	126.19	128.25	1.0120	129.78
78	121.87	1.0052	122.51	124.35	1.0084	125.38	127.45	1.0111	128.86
77	121.25	1.0043	121.78	123.65	1.0075	124.57	126.64	1.0102	127.93
76	120.63	1.0034	121.04	122.94	1.0066	123.75	125.83	1.0093	127.00
75	120.00	1.0025	120.30	122.22	1.0057	122.92	125.00	1.0084	126.05
74	119.35	1.0017	119.55	121.49	1.0048	122.08	124.16	1.0075	125.09
73	118.70	1.0009	118.80	120.75	1.0039	121.23	123.31	1.0066	124.12
72	118.03	1.0001	118.04	120.00	1.0030	120.36	122.45	1.0057	123.15
71	117.35	0.9993	117.27	119.23	1.0021	119.48	121.57	1.0048	122.16

different Tenders for their Periodical Redemption.

to the tender to which it shall be subject for its redemption.									Given val. of 100l. of 3 p. cent stock, redeemable at pleasure.
Tender 3 per cent. per ann.			Tender 2 per cent. per ann.			Tender 1 per cent. per ann.			
Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.	
£.		£.	£.		£.	£.		£.	
150.00	1.0380	155.70	160.00	1.0459	167.35	175.00	1.0581	185.16	100
149.25	1.0370	154.77	159.04	1.0448	166.16	173.68	1.0568	183.55	99
148.48	1.0360	153.83	158.06	1.0437	164.97	172.36	1.0555	181.93	98
147.72	1.0350	152.89	157.08	1.0426	163.78	171.03	1.0542	180.31	97
146.94	1.0340	151.94	156.10	1.0415	162.58	169.70	1.0529	178.68	96
146.15	1.0330	150.98	155.10	1.0404	161.37	168.35	1.0516	177.04	95
145.36	1.0320	150.01	154.10	1.0393	160.16	167.00	1.0503	175.40	94
144.56	1.0310	149.04	153.09	1.0382	158.94	165.65	1.0490	173.76	93
143.75	1.0300	148.06	152.07	1.0371	157.71	164.29	1.0477	172.12	92
142.93	1.0290	147.07	151.04	1.0360	156.48	162.92	1.0464	170.47	91
142.10	1.0280	146.08	150.00	1.0349	155.24	161.54	1.0451	168.82	90
141.27	1.0270	145.08	148.95	1.0338	153.99	160.15	1.0438	167.17	89
140.43	1.0260	144.08	147.90	1.0327	152.74	158.76	1.0425	165.51	88
139.57	1.0250	143.07	146.84	1.0316	151.48	157.36	1.0412	163.85	87
138.71	1.0240	142.04	145.76	1.0305	150.21	155.96	1.0399	162.18	86
137.84	1.0230	141.01	144.68	1.0294	148.93	154.55	1.0386	160.51	85
136.96	1.0220	139.97	143.59	1.0283	147.65	153.13	1.0373	158.84	84
136.07	1.0210	138.92	142.49	1.0272	146.36	151.70	1.0360	157.16	83
135.16	1.0200	137.86	141.38	1.0261	145.07	150.26	1.0347	155.48	82
134.25	1.0190	136.80	140.26	1.0250	143.77	148.82	1.0334	153.79	81
133.33	1.0180	135.73	139.13	1.0239	142.46	147.37	1.0321	152.10	80
132.40	1.0170	134.65	137.99	1.0228	141.14	145.91	1.0308	150.40	79
131.46	1.0160	133.56	136.84	1.0217	139.81	144.44	1.0295	148.70	78
130.51	1.0150	132.46	135.68	1.0206	138.47	142.97	1.0282	147.00	77
129.55	1.0140	131.36	134.51	1.0195	137.13	141.49	1.0269	145.30	76
128.57	1.0130	130.25	133.33	1.0184	135.78	140.00	1.0256	143.59	75
127.59	1.0120	129.12	132.14	1.0173	134.43	138.50	1.0243	141.87	74
126.59	1.0110	127.98	130.94	1.0162	133.07	137.00	1.0230	140.15	73
125.58	1.0100	126.83	129.73	1.0151	131.69	135.48	1.0217	138.42	72
124.56	1.0090	125.68	128.51	1.0140	130.80	133.96	1.0204	136.69	71

TABLE of

Given val. of 100l. of 3 p. cent stock, redeemable at pleasure.	Corresponding value of 100l. of 6 per cent. stock, according								
	Tender 6 per cent. per ann.			Tender 5 per cent. per ann.			Tender 4 per cent. per ann.		
	Com- puted value.	Ratio of the cor- rection.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.
	£.		£.	£.		£.	£.		£.
70	116.66	0.9985	116.49	118.46	1.0012	118.60	120.69	1.0039	121.16
69	115.96	0.9977	115.69	117.67	1.0003	117.71	119.79	1.0030	120.15
68	115.25	0.9969	114.89	116.87	0.9994	116.80	118.88	1.0021	119.13
67	114.53	0.9961	114.07	116.06	0.9985	115.88	117.96	1.0012	118.10
66	113.79	0.9953	113.24	115.24	0.9976	114.96	117.02	1.0003	117.06
65	113.04	0.9945	112.40	114.40	0.9967	114.02	116.07	0.9994	116.01
64	112.28	0.9937	111.55	113.55	0.9958	113.07	115.11	0.9985	114.94
63	111.50	0.9929	110.69	112.68	0.9949	112.11	114.13	0.9976	113.86
62	110.71	0.9921	109.82	111.80	0.9940	111.13	113.14	0.9967	112.77
61	109.91	0.9913	108.94	110.91	0.9931	110.14	112.13	0.9958	111.66
60	109.09	0.9905	108.05	110.00	0.9922	109.14	111.11	0.9949	110.54
59	108.26	0.9897	107.14	109.08	0.9913	108.13	110.07	0.9940	109.41
58	107.41	0.9889	106.21	108.14	0.9905	107.11	109.02	0.9931	108.27
57	106.54	0.9881	105.27	107.18	0.9897	106.08	107.95	0.9922	107.12
56	105.66	0.9873	104.32	106.21	0.9889	105.03	106.87	0.9913	105.95
55	104.76	0.9865	103.35	105.22	0.9881	103.97	105.77	0.9904	104.76
54	103.84	0.9857	102.36	104.21	0.9873	102.89	104.65	0.9895	103.56
53	102.91	0.9849	101.36	103.19	0.9865	101.80	103.52	0.9886	102.34
52	101.96	0.9841	100.34	102.14	0.9857	100.69	102.36	0.9877	101.10
51	100.99	0.9833	99.30	101.08	0.9849	99.56	101.19	0.9868	99.85
50	100.00	0.9825	98.25	100.00	0.9841	98.41	100.00	0.9859	98.59

Six per Cent. Stocks, continued.

to the tender to which it shall be subject for its redemption.

Tender 3 percent. per ann.			Tender 2 per cent. per ann.			Tender 1 per cent. per ann.			Given val. of 100. of 3 p. cent. stock, redeemable at pleasure.
Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.	Com- puted value.	Ratio.	Cor- rected value.	
£.		£.	£.		£.	£.		£.	
123.53	1.0080	124.52	127.27	1.0129	128.91	132.43	1.0191	134.96	
122.48	1.0070	123.35	126.03	1.0118	127.51	130.89	1.0178	133.22	70
121.43	1.0060	122.16	124.77	1.0107	126.10	129.35	1.0165	131.48	69
120.36	1.0050	120.96	123.50	1.0096	124.68	127.79	1.0152	129.74	68
119.28	1.0040	119.76	122.22	1.0085	123.26	126.23	1.0140	128.00	67
118.18	1.0030	118.54	120.93	1.0074	121.83	124.66	1.0128	126.26	66
117.07	1.0020	117.31	119.63	1.0063	120.38	123.08	1.0116	124.51	65
115.95	1.0010	116.07	118.31	1.0052	118.92	121.49	1.0104	122.75	64
114.81	1.0000	114.81	116.98	1.0041	117.46	119.89	1.0092	120.99	63
113.66	0.9990	113.54	115.64	1.0030	115.99	118.28	1.0080	119.22	62
112.50	0.9980	112.27	114.29	1.0019	114.51	116.66	1.0068	117.45	61
111.32	0.9970	110.99	112.92	1.0008	113.01	115.04	1.0056	115.68	60
110.13	0.9960	109.69	111.54	0.9997	111.50	113.41	1.0044	113.91	59
108.92	0.9950	108.37	110.14	0.9986	109.99	111.76	1.0032	112.12	58
107.69	0.9940	107.04	108.74	0.9975	108.47	110.11	1.0020	110.33	57
106.45	0.9930	105.70	107.32	0.9964	106.93	108.45	1.0008	108.54	56
105.19	0.9920	104.35	105.88	0.9953	105.38	106.78	0.9996	106.74	55
103.92	0.9910	102.98	104.43	0.9942	103.82	105.10	0.9984	104.93	54
102.63	0.9900	101.60	102.97	0.9931	102.26	103.41	0.9972	103.12	53
101.32	0.9891	100.21	101.49	0.9921	100.69	101.71	0.9960	101.30	52
100.00	0.9882	98.82	100.00	0.9911	99.11	100.00	0.9948	99.48	51
									50

EXPLANATION and Use of the foregoing TABLES.

I. **T**HE COMPUTED VALUE of an annuity (or of an annuity stock) is what the value of such annuity would be, if the given rate of interest for money was a stationary or invariable quantity: these are computed from the Theorem demonstrated in the foregoing third section; and are laid down in the foregoing tables, in the columns denominated at the top, *Computed Value*. But the rate of interest for money not being actually stationary, and the variations thereof being (as I observed in the foregoing third section) attended with *different degrees* of effect on the value of *different stocks*, according to the terms of redemption to which such stocks shall be respectively liable; it necessarily follows, that, in forming a comparison of the values of *different annuities* (or of *different annuity stocks*) the *one* with the *other*, their respective *computed values* will not be absolutely their *comparative values* in the market; but will be a *general approximation* thereto, which will require to be corrected by one or more *further approximations*.

2. In all the treatises, and tables, that I have seen on this subject, the *further approximations* are either not mentioned at all, or left to be made
according

according to the reader's discretion, without giving him even general directions for exercising his judgment. There is, however, a second approximating step, which may be considered as an *universal* one: and which, (although gentlemen may indeed differ in a *small degree* with respect to *precise quantity*) may be deduced so very near the truth, as to be capable of being collected and formed into tables, and from this second approximation, the further approximations that may at any time be necessary, in any given case, may be performed, sufficiently near the truth for all practical purposes, by a simple operation in the rule of proportion, commonly called the *Rule of Three*.

3. The second approximating step is formed, by considering the given rate of interest, not as a stationary or invariable quantity; but by considering it as a *mean rate*; and by considering the probability of its remaining at the given rate, and the probability of its increasing or decreasing, to be each *equal* probabilities: And, by correcting the aforementioned *computed value*, according to the *different degrees* in which the different stocks would respectively *rise* or *fall*, in conjunction with such *variations* of the rate of interest.

4. For example.—When a three per cent. stock is worth 75*l.* the computed value of a four per cent. stock (whether subject to a tender of 4, 3, 2, or 1, per cent. per annum for its redemption) will be 100*l.* But it is evident (from a bare inspection of the table) that in case of a *decrease* in the rate of interest, the computed value of the four per cent. stock will not rise in so great a ratio as the three per cent. stock; and it is likewise evident that in case of an *increase* in the rate of interest, the computed value of both stocks would fall in an *equal* ratio.

ratio.....When, therefore, a man can buy a three per cent. stock at 75*l.* he cannot, consistent with his own interest, give so much as 100*l.* for a four per cent. stock. The second approximated value of the four per cent. stock, when a three per cent. stock is worth 75*l.* must therefore be *less* than 100*l.* but *how much less*, is a point in which gentlemen's private opinions might vary, until those variations of opinion should become reduced as it were to a common center, by the higgling of the market, if I may so call it. In the foregoing tables I have stated this common center (under the denomination of *corrected value*) to be *one and three quarters per cent.* below the computed value †, when the tender to which the stock shall be subject for its periodical redemption shall be *equal* to the *annuity*: The common centers stated for the other tenders are determined from thence; and the *ratio* between the *computed values* and the said *common centers*, or *corrected values*, as I have denominated them, I have placed in the middle column of the tables. It would be tedious to give *the whole* of the reasons which induced me to lay down this common center at *one and three quarters per cent.* below the computed value, rather than at *one and half per cent.* on the one hand, or *two per cent.* on the other hand, below the said computed value. I will, however, give the following reasons, which will perhaps be as convincing to the readers in general as if I were to give ever so many more reasons:—It is evident to every body that the corrected value must in this case be *somewhat below* the computed value; and in my conversations

I 2

tions

† That is, in the ratio of 1 to 0,9825.

tions on the subject, I have heard different opinions, from *one per cent. at the least*, to *two and an half per cent. at the most*; admitting (as is the *data* for this second step of the approximation) that the probability of an *increase* and the probability of a *decrease* in the rate of interest shall (so far at least as may be visible) be *equal* probabilities. The *one and three quarters per cent.* which I have assumed, is just *midway* between these different opinions. So much for the *lower* proportions between the computed and the corrected values, as laid down in the tables.

5. Again,.....When a three per cent. stock is worth 100*l.* the computed value of a four per cent. stock subject to a tender of four per cent. per annum for its redemption will be 114 $\frac{2}{7}$ *l.* * (or 114,29*l.* nearly as mentioned in the table). But it is evident (from a bare inspection of the table) that, in case of an *increase* in the rate of interest, the computed value of the four per cent. stock will not fall in so great a ratio as the three per cent. stock : and hence, the four per cent. stock would be worth more than its *computed value*, compared with the three per cent. stock, in case the two stocks were to have *equal* capacities for rising in value. Moreover, the four per cent. stock has a free capacity for rising higher and higher in case of a *decrease* in the rate of interest, but the three per cent. stock (being subject to an *unlimited* tender for its redemption) has not. If, for instance the rate of interest should decrease to 2 $\frac{3}{4}$ *l.* per cent. per annum, the computed value of the four per cent. stock

* See the principles laid down and demonstrated in the foregoing Third Section.

stock would rise to $118\frac{1}{2}\%$. but the three per cent. stock would still be payable *in toto* at 100%. and would consequently be liable to a reduction of the interest. Hence then, the second approximated value (which I denominate the *corrected value*) must *exceed* the computed value in *this* case, in a greater proportion than it would *fall short* of the said computed value in the *former* case. Gentlemen may indeed here again differ in opinion with respect to the *precise proportion* in which this corrected value shall exceed the computed value; but it is perfectly evident that the ratio of the *excess*, in this case, must, at any rate, be greater than the ratio of the *defalcation* in the preceding case. I have heard different opinions from *two per cent. at the least*, to *five per cent. at the most*; but these opinions have most generally been between Two per Cent, and Three per Cent; admitting (as is the *data* for this second approximation) that the probability of an *increase* and the probability of a *decrease* in the rate of interest shall be (to all appearance) *equal* probabilities. In the foregoing tables I have stated the ratio at $2\frac{1}{2}$ per Cent.* which is about the *midway* (or *common center*) between these different opinions; and I doubt not but it will be deemed sufficiently near the truth for a second approximating step. The ratios for the other tenders are determined from thence.

6. Having thus fixed the ratio's between the computed values and the corrected values, at the *top* and *bottom* of the tables, the intermediate ratios between the top and bottom are supplied by the interposition of means proportional; and

I 3 the

* That is, as 1 to 1,025.

the Corrected Values laid down in the third column, are, of course, determined, by multiplying the respective Computed Values by their corresponding Ratios. The tables of Five per Cent. and Six per Cent. stocks are composed in the same manner.

7. In a time of peace and tranquillity, when there shall be no appearance of an extraordinary demand for money on the one hand, nor of any additional or extraordinary influx of money into the market, on the other, the rate of interest for the time being may be considered as the *mean rate*; and the prices of the stocks for the time being may of course be considered as their *mean value*; and the probability of their *rising a little higher*, or *falling a little lower*, may be considered as *equal probabilities*. The foregoing tables, therefore, exhibit the comparative values of the respective stocks, in such time of peace and tranquillity; the value of a Three per Cent. Stock being given.

For example, suppose the given (or mean) value of the Three per Cent. Stock, to be 88*l.* (which I think was pretty generally the case during the last peace), the corresponding value of a four per cent. stock will be as follows, according to the tender to which it shall be subject for its redemption; viz.

If subject to a tender of 4 per cent. per ann.	108.48
— — — of 3 per cent. per ann.	110.06
— — — of 2 per cent. per ann.	112.32
— — — of 1 per cent. per ann.	115.60

So likewise, if the given (or mean) value of the three per cent. stock be 70*l.* the corresponding value of a five per cent. stock will be as follows; viz.

If

If subject to a tender of 5 per cent. per ann.	106.88
— of 4 per cent. per ann.	108.12
— of 3 per cent. per ann.	109.36
— of 2½ per cent. per ann.	110.55
— of 2 per cent. per ann.	111.56
— of 1 per cent. per ann.	114.42

If the given (or mean) value of the three per cent. stock be lower than is mentioned in the table; the comparative value of the proposed stock will be found (sufficiently near the truth) by the following rule;—viz.

As the *lowest value* of the Three per Cents mentioned in the table :

Is to the corresponding value of the proposed stock :

So is the *given value* of the three per cent. stock :

To the value of the proposed stock, required.—

For example.—Suppose it were required to know the value of a Four per Cent. Stock subject to a tender of four per cent. per annum for its redemption: the given (or mean) value of a three per cent stock being 70*l*.

Say, As £.75. the *lowest value* of the three per cents mentioned in the table :

is to 98.25 the corresponding value of the proposed Four per Cent. stock ::

So is 70 the *given value* of the three per cent. stock :

to 91.7 the value of the Four per Cent. Stock, required.*

I 4

So

* Our present four per cent. stock is worth from about Two per Cent. to about Four per Cent. *less* than is here mentioned. The reason is this:—Our present four per cent. stock is subject to an *unlimited* tender for its redemption; and, consequently, becomes liable to a reduction of the interest whenever money can be borrowed cheaper: whereas, the *abovementioned* Four per Cent. Stock is secured from a reduction of the interest, by the limiting of the tender.

So much for the comparative values of the stocks in times of peace and tranquillity; when the *given value* or *price* for the time being, may be, considered as the *mean value*.

8. When there shall be an extraordinary demand for money (as in time of war), the rate of interest for the time being will naturally be raised *higher* than the *mean rate*; and the *given prices* of the stocks for the time being will of course be depressed *below* their *mean value*: In this case, therefore, in order to ascertain the comparative values between different stocks, a *further* approximation becomes necessary.

The comparative values of different stocks are (properly speaking) such, that, whether a man shall take the *one* stock or the *other*, at those respective prices, the profits thereon attendant shall on the whole be *equal*, or, at least, as *nearly equal* as can be ascertained. When, therefore, the stocks are depressed for the time being, below their *mean value*, in consequence of an extraordinary demand for money (as in time of war), it becomes necessary to inquire what may be considered to be their *mean value*, or *point* to which they may be expected to rise when the extraordinary demand for money shall cease. For, it is this *mean value* (and not the temporary value or price for the time being) which governs the Comparative Values between different stocks: Because, as I repeatedly observed in the foregoing fourth section,—When a man can lay out his money in *one* stock, with such or such a prospect of advantage from the future rise of that stock; his own interest will not suffer him to lay it out in any *other* stock, without having an *equal* prospect of advantage. But, it will naturally be asked, how are we to ascertain

tain this *mean value* or *point* to which the stocks may be expected to rise, when the extraordinary demand for money shall cease?

9. In the seventh section of my first Essay, I investigated and laid down the *principles* by which the depreciations in the value of the stocks, and the *mean values* to which they shall afterwards recover, are naturally governed; so far forth as those depreciations and recovered values depend on an extraordinary demand for money, and on a discontinuance of such extraordinary demand, abstracted from other causes. But I observed, likewise, that the depreciations, and the recovered values of the stocks, were *further* affected by other causes, (especially by the locking up of money on speculation in time of war; and by the flowing out of that money in speculative purchases, in times of peace) which lay out of the reach of arithmetical computation; and can therefore be measured, or rather judged of, with respect to *quantity*, from actual experience only.* It may also be observed, that the *rise* in the prices of the stocks occasioned by the application of a sinking fund to their redemption, although perfectly evident as a *natural consequence*, is not mathematically commensurate, with respect to *quantity*. It will be necessary, therefore, in this third approximating step,

* The doctrines laid down in the abovementioned seventh section of the first Essay, and the depreciations and recovered values which have actually taken place in our stocks, correspond with each other much beyond my most sanguine expectations. See the tables of depreciation and recovery, in the 125th and 126th pages of the first Essay; and compare them with the general depreciation and recovery of the stocks, in the two last wars, and in the last and present peace.

step, to call past experience to our aid, in order to ascertain, with a greater degree of exactness, the comparative values of the different stocks in times of war.

The circumstance of our calling past experience to our aid, in the present instance, will not, it is imagined, be, in any the smallest degree, objected to; because, in the *practical world*, experience joined to the most plain and simple kinds of reasoning, is generally esteemed to be *equal* (if not *superior*) to scientific demonstration.

10. In contemplating, in time of war, the probable rise which may be expected to take place in the prices of the stocks, at the discontinuance of the extraordinary demand for money; the practical money lender will naturally inquire,—‘What degree of rise has been found *by experience* to take place on the like occasions heretofore?’ And this (without caring how far it shall proceed from *simple*, or how far it shall proceed from *compound causes*) he will naturally consider to be the measure of the rise which may be expected to take place hereafter. While the stocks shall remain as high or higher than they were during the last preceding war, the money lender will naturally expect them to rise to what they were during the last preceding peace: and should they be lower than they were during the last preceding war, he will naturally expect that the rise will be at least *proportionate* to what has been experienced on the like occasions.

Now, whatever might or might not be the *natural* point of recovery to which the three per cents would rise, in consequence *simply* of the discontinuance of the extraordinary demand for money, abstracted from the further effects produced by the throwing of an additional proportion of money into the market for purchase or redemption:

K

Whatever

Whatever, I say, such *natural* point of recovery might or might not be; experience evinces, that, after the extraordinary demand for money ceases, the making of a very small attempt to purchase up the stocks for redemption, does actually raise the prices of the three per cents to about *half way* between the *lowest prices* to which they have been depressed by the extraordinary demand for money during war, and *par*.* And, it is perfectly evident to every body, that a continuance of those purchases (if any *effectual* sinking fund should be so applied) must raise them higher and higher.

Hence then, in a time of war, the practical money lenders, who (as men of business) will naturally govern themselves by *experience*, in preference to any other kind of reasoning, will determine the comparative values of the different stocks according to the following *general* approximating rule; and, if they should judge it necessary to apply any further correction, they may easily do it by requiring a *premium* (or *bonus* † as it is commonly called) a little *greater* or a little *lesser* accordingly, viz.

General Rule in Time of War.

First.—If the *given market price* of the three per cents for the time being, shall not be
so

* During the war from 1755 to 1763 the lowest prices of the three per cents were about 69 or 70*l.* and the *half way*, between 70*l.* and 100*l.* (or *par*) is 85*l.* The general prices of the three per cents during the peace from 1763 to 1775 was about 88*l.* which is *higher* than the abovementioned half sum. Again.—The lowest prices of the three per cents during the last war, from 1775 to 1783 were about 54*l.* The *half way* between this and *par* is 77*l.* The first purchases that were made for their redemption in July and August 1786, carried them to about 78*l.*

† *Bonus* is a Parliamentary term, which signifies the *premium* necessary to be given for the advancement of the loan, over and above what the lenders might make by laying out their money in the stocks.

so much below their *general* or *average price* during the preceding peace, as that *general* or *average price* was *below par*; then, let the said *general* or *average price* of the three per cents during the preceding peace, be considered, as their *mean value*:

But if the *given market price* of the three per cents for the time being, shall be more than as much below their *general* or *average price* during the preceding peace, as that *general* or *average price* was *below par*; then, let the *half sum* of the *given price* and *par* (i. e. the half sum of the *given price* and 100*l.*) be considered as their *mean value*: *—

Secondly.—Enter the tables with this *mean value* of the three per cents, and take the value (meaning the *corrected value*, so denominated in the tables) of the *proposed stock*, corresponding to such *mean value* of the three per cents:

Thirdly.—Then say,

As the abovementioned *mean value* of the three per cents:

is to the corresponding value of the *proposed stock*:

So is the *given market price* of the three per cents for the time being:

To the value of the *proposed stock* for the time being.

K 2

II. For

* It would be more consistent with the *elemental* principles of the subject, to consider the *half sum* of their *given price* in time of war and their *general price* during the preceding peace, as being their *mean value*; but as this would not be so consistent with the interests of the lenders, it would be in vain to urge such an argument in a time of war, when Government is as it were in the *power* of the lenders.

11. For example:—Suppose it were required to know the value of a four per cent. stock subject to a tender of four per cent. per annum, for its redemption, in the month of October 1777; taking the given value of the three per cents for the time being at $77\frac{1}{2}\text{L.}^*$ and taking their general or average value during the preceding peace at $88\text{L.}^\dagger$

First.—In this case the given value of the three per cents for the time being [$77\frac{1}{2}\text{L.}$] is not so much below [88L.] their general or average price during the preceding peace, as that general or average price [88L.] is below par:—wherefore 88L. may be considered as the *mean value* to which the dealers in stocks might (from *experience*) expect them to rise on the discontinuance of the extraordinary demand for money.

Secondly.—The corresponding value of the proposed four per cent. stock, when the three per cents are at 88L. is by the table
 $\text{£. } 108.48$

Thirdly.

* I give this for an example, because, I have now before me a Westminster Magazine for October, 1777; in which the prices of the reduced three per cents (the dividend on which was just paid) are stated at $77\frac{1}{2}\text{L.}$

† I state the general or average value of the three per cents during the last peace at 88L. because I lately saw some Magazines of 1774 and 1775, which mention them at that price. The *general average* might perhaps have been a *little higher* or a *little lower*; but the difference could not be so great as to produce any material difference in the comparative (or *proportionate*) values of the two stocks.

Thirdly.—Then say

As £.88 the mean value of the three per cents :

is to 108.48 the corresponding value of the proposed four per cent. stock ::

So is 77.5 the given value of the three per cents for the time being :

to 95.54 the value of the proposed four per cent. stock for the time being.*

12. Again—Suppose it were required to know the value of a four per cent. stock subject to a tender of four per cent. per annum for its periodical redemption at the time of the loan of 1781: taking the value of the three per cents for the time being (as they were then actually taken) at 58/. and taking (as in the last example) their

K 3

general

* The Westminster Magazine for October 1777, now before me, mentions the market price of the new four per cent. stock which was created that year (the dividend on which was just paid) to be $90\frac{1}{4}$ /. The abovementioned four per cent. stock would indeed have been worth *something more* in the market than the four per cent. stock which was then created, on account of its being secured from a reduction of the interest by the limiting of the tender; but as the four per cent. stock then created was (by agreement) secured from a reduction of interest for *ten years*, we cannot reasonably suppose that the preference due to the abovementioned four per cent. stock would have amounted to *more* than the above rule gives. And the conclusion which will by and by follow, will be, that the stock dealers, and not the public, will derive advantage from the establishment of New Stocks in time of war, bearing a *higher interest* than the Old Stocks: and, that a time of peace and tranquillity, when the *mean values* of the public annuities shall be visible to every body, is the only time in which any New Stock will bring its *real comparative value*: because while the *real comparative value* of the New Stock shall be in any material degree *doubtful*, the man of business who gives his *money* for it, will naturally (and very justly) turn the *doubtful point* to his own advantage.

general or average value during the preceding peace at 88l?

First.—In this case the given value of the three per cents for the time being [58l.] is *more* than as much below [88l.] their general or average value during the preceding peace, as that general average value [88l.] is *below par*: wherefore, the *half sum* of their given value [58l.] and *par* [100l.] which said half sum is 79l. may be considered as their *mean value*:

Secondly.—The value of the proposed four per cent. stock, corresponding to this *mean value* of the three per cents, is, by the table, 101.50

Thirdly.—Then say

As £.79 the *mean value* of the three per cents:

is to 101.50 the corresponding value of the proposed four per cent. stock::

So is 58 the given value of the three per cents for the time being:

to 74.52 the value of the proposed four per cent. stock for the time being.*

13. Another example.—Suppose it were required to know the value of a five per cent. stock, subject to a tender of five per cent. per annum

* A part of the loan of this year [1781] was made on a four per cent. stock, and the four per cent. stock was taken at 70l. The abovementioned four per cent. stock would (as I observed in the last note) have been worth *something more* in the market than the four per cent. stock which was then created, on account of its being secured from a reduction of the interest by the limiting of the tender: but we cannot reasonably suppose that the lenders would have made *more* difference than the above rule gives.

annum for its periodical redemption, at the time of the loan of 1781 : taking the value of the three per cents for the time being (as they were then actually taken) at 58 $\frac{1}{2}$ l. and taking their general or average value during the preceding peace at 88 $\frac{1}{2}$ l. as before ?

First.—The *mean value* of the three per cents will be the same as in the last example,—to wit 79 $\frac{1}{2}$ l.

Secondly.—The value of the proposed five per cent. stock, corresponding to such mean value (see the table) is 113.88 $\frac{1}{2}$ l.

Thirdly.—Then

As £. 79 the *mean value* of the three per cents :

is to 113.88 the corresponding value of the proposed five per cent. stock ::

so is 58 the given value of the three per cents for the time being :

to 83.61 the value of the proposed five per cent. stock for the time being.*

K 4

14. We

* I observed in the foregoing fourth section, page 88, that a five per cent stock was proposed (though it did not take place) for a part of the loan of this year [1781]; but the limiting of the tender to which it should be periodically liable for its redemption (whereby *alone* the interest or annuity could be secured from reduction, and the stock be at the same time redeemable) did not occur : It was therefore proposed on the part of the lenders to have the interest secured from reduction for *fifteen years*, by rendering the stock irredeemable during that term; and, on those conditions, the highest offer that was made for it (at least, I have been so informed, in a way that I cannot doubt the truth of it) was 82l.—The *above-mentioned* five per cent. stock would have been worth but a very little more than a five per cent. stock, irreducible for fifteen years.—We cannot therefore suppose that if the above-mentioned stock had been proposed, it would have been taken at a *higher* rate than the above rule gives.

14. We may observe from these examples and from the observations contained in the *notes* at the bottom, as well as from the observations and arguments laid down in the foregoing fourth section, that, in the present state of the debt, the granting of *artificial capitals* over and above the monies actually received cannot be avoided, with any advantage to the public, by the establishment of New Stocks, in time of war, bearing a higher interest than the *old stocks*. The rise which shall have been found by *experience* to take place in the price of the Old Stock, after the extraordinary demand for money ceases, will always be the guide by which men of business will govern themselves in determining the value of any New Stock: and while this expected rise shall be in any material degree *doubtful*, men of business, who advance their money, will always calculate the *doubtful part* (as indeed they ought) to their own advantage.

It would be in vain in time of war to tell the practical money lender, that he ought not in his calculation to make so great an allowance for the expected rise of the Stocks on the discontinuance of the extraordinary demand for money:—he would at once reply, in answer,—Experience justifies the making of such allowance: The rule is founded on *actual experience*, by which men of business must always be governed. It would be equally in vain to tell him ‘that a considerable part of the ‘rise which had been heretofore experienced, was ‘occasioned by throwing a sinking fund into the ‘market; and that, as government was under no ‘engagement to redeem, such rise was not ‘to be ‘expected in future’: It would be in vain, I say, to urge this argument in a time of war:—The
practical

practical money lender (should he have studied the nature and principles of the subject) would immediately reply,—‘ I cannot, indeed, expect a sinking fund to be thrown into the market for the redemption of a stock bearing a *low interest*; because, experience sufficiently evinces that the depreciations to which such stocks are liable in time of war, from the want of their bearing a sufficient interest or annuity, are such, that near Fifty per Cent more must be required to be paid for their redemption, than can be obtained for them when created for a loan; and, was such a system of practice to be persevered in, they might require even *double* (or *more than double*) as much to be paid for their redemption as could be obtained for them at the time of a loan: which, by repeated accumulations of debt, must finally produce a public bankruptcy in any nation under heaven. This being the case, I will not advance my money but on such a stock as government may *safely* be expected to employ a sinking fund in: I will not advance my money but on a stock bearing such an interest as that it shall be for the *advantage* of government to apply a sinking fund for its redemption; and then I shall have *no doubt* of its being applied: I will also have the stock liable *only* to such a tender for its periodical redemption, as shall secure to me the advantages of the *rise* of the stock, which the application of the sinking fund must necessarily produce.’ If, for instance, this argument had been urged at the time of the loan of 1781, (supposing the nature and principles of the subject to have been previously investigated and understood) the practical money lender would have said—‘ If I may not expect a sinking fund to be employed in the redemption of a

‘ Three

' Three per cent. a Four per cent. or a Five per
 ' cent. stock; I shall still entertain no doubt but go-
 ' vernment will exert itself to redeem a stock bear-
 ' ing so high an interest as Six per Cent : and I
 ' will not advance my money without having 60%.
 ' (*more or less*) of Six per Cent. Stock, liable to a
 ' tender of *only* Three per Cent. per Annum for
 ' the periodical redemption of the capital, in the
 ' stead of 100l. of Three per Cents,* on my ad-
 ' vancing *in money*, towards the loan, [58l. †] the
 ' present value of the Three per Cent. Stock.' The
 lender (supposing the great monied men who sub-
 scribe towards the new loans to be likewise pro-
 prietors of old stock, which I am informed is the
 case to a very considerable amount) might have
 said much more :—He might have said—' If I
 ' may not expect a sinking fund to be applied to
 ' the redemption of stocks bearing a *low* interest ;
 ' I will not advance any more money without se-
 ' curing the attention of government to a sinking
 ' fund, with respect to my *old stock* likewise : I will
 ' not

* £60 of such Six per Cent. Stock would be worth more
 than 100l. of Three per Cent. Stock, while the Three per
 Cents should be under 80l. £.66 $\frac{2}{3}$ of such Six per Cent.
 Stock would be worth more than 100l. of the Three per
 Cents, *in all possible cases whatsoever*. £.62 $\frac{1}{2}$ of Six per Cent.
 Stock, subject to a tender of Two per Cent. per Annum, or
 57 $\frac{1}{2}$ l. of ditto, subject to a tender of One per Cent. per Annum,
 would likewise, either of them, be worth more than 100l. of
 Three per Cent. Stock, in all possible cases whatsoever. But
 it would not be consistent with the interests of the creditors,
 to stipulate for so *low* a tender as should be insufficient to
 check the increase of the debt within a reasonable time ;
 because, without that, a public bankruptcy must unavoidably
 ensue.

† £58 was the rate at which the Three per Cents were
 then actually taken.

‘ not advance any more money without having *twice or three times 60l. (more or less)* of New Six per Cent. Stock, liable only to a tender of Three per Cent. per annum for its redemption, on my advancing the present value of 100*l.* of Three per Cent. stock *in money*, and giving up therewith 100*l.* or 200*l.* of my present Three per Cent. capital.’

Such would have been the arguments used at the time of the loan of 1781, had the nature and principles of the subject been previously investigated and understood.

15. In a time of peace and tranquillity the case is different. Were we not to interrupt the stock market by the sinking fund, it would quickly find its own level: the *mean value* of the three per cents (which, in the present state of the debt, will naturally be the *governing* stocks) would then be no longer a *doubtful* point, but would be evident to every body; and there would then be no difficulty in ascertaining the comparative value of any New Stock, so as to afford equal advantages to the Stock-holder, and be at the same time redeemable, consistently with the true principles of Finance: the essence of which, is, that ‘ the redeemable stock shall have a free and secure capacity for rising in value for the advantage of creditors, without injury to the public with respect to the price to be paid for the periodical redemptions that shall be necessary to be made, in order to prevent the excessive increase of the debt.’

A conversion of the debt into stocks of this kind can always be effected, in time of peace, on very *reasonable* terms: because, according to the constitution of the stocks, it is entirely at the

option of government whether to redeem or not ; and, without a redemption, the value of the stocks cannot be supported : every stockholder knows this to be the case.—Their own interest, therefore, will lead them to subscribe to the conversion on reasonable terms, were it only to avoid the loss which they must necessarily sustain from the *fall* of the stocks, in case government should *refuse* to redeem : By subscribing to the conversion they will not only avoid these losses, but will likewise secure to themselves the advantages of a *rise* in the value of the New Stock, in consequence of the redemptions that will naturally be made, after the conversion shall be effected.

16. I have already swelled this Essay much beyond the size which I at first intended : I cannot, however, omit making one more observation, to prove (from *experience*, founded on such actual facts as every man *has* or *might have* seen with his own eyes) that a time of war is not a time for establishing New Stocks with any advantage to the *public* : and that it must, on the contrary, be much more disadvantageous to the *public* to establish New Stocks in time of war, bearing a higher interest than the old stocks, which have the chief possession of the market, than it would be to fund on the Old Stocks in time of war, and afterwards to convert them into the *higher stock* in time of peace. The reason is this : the comparative value of any new stock will always be determined in the market, according to the *mean value* of that stock which shall have the chief possession of the market : But, in a time of war, this *mean value* (or price to which the old stock may be expected to rise when the extraordinary demand for money shall cease) is not *precisely ascertainable* ; but is,

at

at least in *some degree, doubtful*: and the old stock, by having the greatest possession of the market, naturally carries the greatest part of the *doubtful degree* in its own favour: so that in a time of war, a *greater quantity* of any New Stock will be required, in order to be equivalent *in value* in the market to any given quantity of the Old Stock, than will be equivalent thereto in time of peace, when the *mean value* of the old stock shall cease to be doubtful.

The truth of this observation will be sufficiently evinced by the following facts:

I have before me (as I observed a few pages back) a Westminster Magazine for October 1777, which mentions the then market price of the Three per Cents to have been $77\frac{1}{2}l.$ and that of the four per cents $90\frac{1}{4}l.$ the dividend on each having been just then discharged:—In this state of the market, rather more than $85\frac{3}{4}l.$ of the four per cent. stock was required, in order to be equivalent *in value* to $100l.$ of the three per cent. stock: and although the *ratio* of the depreciation of the Four per Cent. Stock, was rather *less* than that of the Three per Cents; yet, during the whole course of the war, their comparative values in the market were such, that about $83l.$ (generally *more* than $83l.$) of the four per cent. stock was required, in order to be equivalent in value to $100l.$ of the three per cents. But, since the peace, their comparative values in the market have been such, that about $80l.$ (or, I believe, without a single exception, rather *less* than $80l.$) of the four per cent. stock has been equivalent in value to $100l.$ of the three per cents. On the 14th of October, 1786, for example, the Three per Cents were at $76\frac{1}{4}l.$ and the Four per Cents at $95\frac{3}{4}l.$ exclusive of the dividends then on
each

each payable : In this state of the market, rather less than $79\frac{3}{4}\%$ of the four per cents was required, in order to be equivalent in value to 100%. of the three per cents. These *facts* are so visible to every body, and they support the truth of the above observation so *effectually*, that I can entertain no doubt of their carrying the fullest conviction to the reader's mind.

I shall therefore conclude, by repeating, in substance, the observation I made at the end of the foregoing fourth section—to wit,—‘ That, unless the Public Credit of the nation should by some unhappy means become so *totally destroyed* as never to revive again (a thing which cannot be expected, even in the direful case of a public bankruptcy itself) a conversion of the debt, into stocks bearing a higher interest than that of the market, subject to a *limited tender* for the periodical redemption of the capital, must, sooner or later, take place. If such conversion be not proposed in a time of Peace, when Government (by having it at its option whether to redeem or not) has it in its power to make a reasonable and equitable bargain; it will be demanded by the lenders (in greater or lesser proportions) in a time of war, as a part of the conditions of new loans; and, Government being then as it were in the power of the Lenders, the terms demanded will, of course, be more unfavourable to the Public.’

F I N I S.



Advertisement.

THE variations necessary to be allowed, as part of the constitutional properties of the New Stock, in order to provide for the respective *Conveniencies* of the different classes and denominations of the Public Creditors, are laid down in the Third Section of the Third Essay.

E R R A T A.

- | | | | |
|-------|-----|-----|---|
| P. 8, | 1, | 17, | for 'must be', read 'would be' |
| — | 21, | | for 'be so applied', read 'were to be so applied';—and for 'can only produce', read 'could only produce.' |
| 20, | — | 5, | of the note, for £. 187.750,000 read
£. 187,650,000 |
| — | | 7, | of the note, for 18,000,000 read
17,900,000 |
| — | 10, | | of the note, for 21,500,000 read
21,700,000 |
| — | 13, | | of the note, for 9,300,000 read
9,280,000 |
| 21 | — | 13, | for 'near', read 'above.' |
| 30 | — | 26, | for 'near' read 'above.' |
| 41 | — | 9, | of the note, for 'Wherefore', read 'And |
| 71 | — | | in the note, for 'page 42,' read 'page 63.' |
| 74 | — | | in the note, for 'page 42,' read 'page 63.' |
| 79 | — | | in the note, for 'page 42,' read 'page 63.' |

